THE UNIVERSITY
OF ILLINOIS
LIBRARY

610.5
MEJ
v. 53

Digitized by the Internet Archive
in 2019 with funding from
University of Illinois Urbana-Champaign

https://archive.org/details/medicalrecord53unse

LIBRARY
OF THE
UNIVERSITY OF ILLINOIS

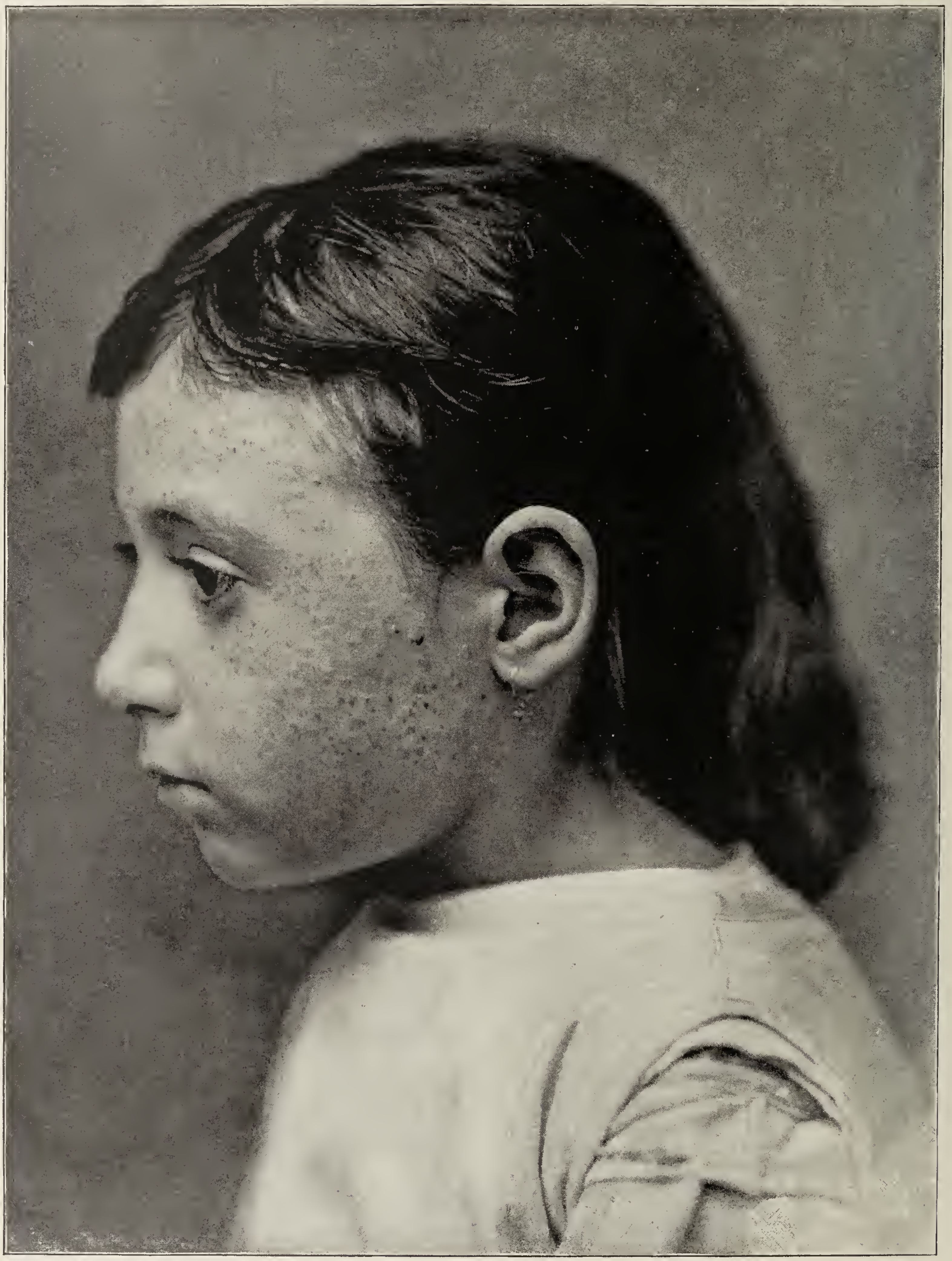


Fig. 1.—Showing prurigo papules on the forehead and cheek.

THE
NEW YORK
MEDICAL JOURNAL.

A
WEEKLY REVIEW OF MEDICINE.

EDITED BY
FRANK P. FOSTER, M.D.

VOLUME LIII.
JANUARY TO JUNE, 1891, INCLUSIVE.

NEW YORK:
D. APPLETON AND COMPANY,
1, 3, AND 5 BOND STREET.
1891.

Copyright, 1891,
BY D. APPLETON AND COMPANY.

610.5
MEJ
v.53

LIST OF CONTRIBUTORS TO VOLUME LIII.

(*EXCLUSIVE OF ANONYMOUS CORRESPONDENTS.*)

Those whose names are marked with an asterisk have contributed editorial articles.

ABERCROMBIE, JOHN, M. D., London, England.
ALEXANDER, SAMUEL, M. D.
ANGELL, EDWARD B., M. D., Rochester, N. Y.
ALLEN, HARRISON, M. D., Philadelphia.
*ARMSTRONG, S. T., M. D.
AULDE, JOHN, M. D., Philadelphia.
BALL R. R., M. D., U. S. Army.
BANGS, L. BOLTON, M. D.
BARROWS, CHARLES CLIFFORD, M. D.
BARTHOLOMEW, J. N., M. D., Trenton, O.
BATES, W. H., M. D.
BECKER, CHARLES P., M. D., Brooklyn.
BERGTOLD, W. H., M. D., Buffalo, N. Y.
BIGGS, HERMANN M., M. D.
BILLINGS, FRANK, M. D., Chicago.
BIRDSALL, W. R., M. D.
BOSLEY, GEORGE H., M. D.
BRADFUTE, C. S., M. D., Philadelphia.
BRADLEY, ELIZABETH N., M. D.
*BRANNAN, JOHN WINTERS, M. D.
BRINKMAN, ALBERT, M. D., Brooklyn.
BRYAN, J. H., M. D., Washington.
*BRYSON, LOUISE F., M. D.
BULL, CHARLES STEDMAN, M. D.
BULL, WILLIAM T., M. D.
BURNETT, S. GROVER, M. D., Kansas City, Mo.
BUTZ, R., M. D., St. Petersburg, Russia.
BYRON, JOHN M., M. D.
CARLISLE, ROBERT J., M. D.
CARR, WALTER LESTER, M. D.
CLAIBORNE, JOHN HERBERT, M. D.
COLE, CARTER S., M. D.
COLEGROVE, LA RUE., M. D., Wellsburg, N. Y.
COLEY, WILLIAM B., M. D.
COLTON, E. E., M. D., Yonkers, N. Y.
COWL, W. Y., M. D.
*CRANDALL, FLOYD M., M. D.
CROSSLAND, JEFFERSON C., M. D., Zanesville, O.
CROWELL, H. C., M. D., Kansas City, Mo.
CURRIER, ANDREW F., M. D.
CURTIS, B. FARQUHAR, M. D.
DAILY, S. J., M. D., Willow Springs. Mo.
DAVIS, EDWARD P., M. D., Philadelphia.
DAVIS, W. E. B., M. D., Birmingham, Ala.
DAWBARN, ROBERT H. M., M. D.
DELATOUR, H. BEECKMAN, M. D., Brooklyn.
De PIETRA SANTA, P., M. D., Paris, France.
De SCHWEINITZ, G. E., M. D., Philadelphia.
DICKINSON, ROBERT L., M. D., Brooklyn.
DRAYTON, H. S., M. D.
DUNN, JAMES H., M. D., Minneapolis, Minn.
DUNN, JOHN, M. D., Richmond, Va.
DURAND, C. FERDINAND, M. B., M. C. P. and S. O., Lockport, N. Y.
DWIGHT, EDWARD S., M. D., Smyrna, Del.
EINHORN, MAX, M. D.
ELDER, THOMAS A., M. D., Seaton, Ill.
ELLIOT, GEORGE T., M. D.
EMERSON, J. B., M. D.
EVANS, GEORGE A., M. D., Brooklyn.
FARRINGTON, JOHN M., M. D., Binghamton, New York.
FAULKNER, RICHARD B., M. D., Allegheny, Pa.,
FIGUEIRA, M., M. D., Brooklyn.
FLUHRER, WILLIAM F., M. D.
FORDYCE, J. A., M. D.
*FOSTER, FRANK P., M. D.
*FOSTER, MATTHIAS L., M. D.
FOWLER, GEORGE RYERSON, M. D., Brooklyn.
FRENCH, THOMAS R., M. D., Brooklyn.
GIBBONS, RICHARD H., M. D., Scranton, Pa.
GIBIER, PAUL, M. D.
GILLIAM, D. TOD, M. D., Columbus, O.
GOLDENBERG, HERMAN, M. D.
GOODWILLIE, D. H., M. D.
*GRANGER, REED B., M. D.
GREGG, WILLIAM H., M. D.
GUMAER, A. G., M. D., Buffalo, N. Y.
GWYER, F. W., M. D.
HAGAN, HUGH, M. D., Atlanta, Ga.
HALSEY. F. SPENCER, M. D.
*HAMILTON, JOHN B., M. D., U. S. Marine-Hospital Service.
HEG, ELMER E., M. D., North Yakima, Wash.
HERRICK, CLINTON B., M. D., Troy, N. Y.
HERZOG, A. W., M. D., Hoboken, N. J.
HINKEL, J. WHITEHILL, M. D., Buffalo, N. Y.
HINKSON, JOHN R., M. D., Long Island City, N. Y.
HODENPYL. EUGENE, M. D.
HODGMAN. W. H., M. D., Saratoga, N. Y.
HOFFMANN, CHARLES R., M. D.
HOFHEIMER, J. A., M. D.
HOLMES, E. W., M. D., Philadelphia.
HOLT, L. EMMETT, M. D.
HOPKINS, H. R., M. D., Buffalo, N. Y.
HUBBARD, DWIGHT L., M. D.
HUBBARD, WILLIAM N., M. D.
HUN, HENRY, M. D., Albany, N. Y.
JACKSON, FRANK W., M. D.
JACKSON, GEORGE THOMAS, M. D.
JACOBY, GEORGE W., M. D.
JOHNSTON, JAMES, M. D., Bradford, Pa.
KAMMERER, FREDERICK, M. D.
KATZENBACH, W. H., M. D.
KELLY, HOWARD A., M. D., Baltimore.
KELLY, J. E., F. R. C. S., M. K. Q. C. P.
KELSEY, CHARLES B., M. D.
KENNEDY, JAMES, M. D., San Antonio, Tex.
KISCH, E. HENRY, M. D., Marienbad, Bohemia.
KLOMAN, WILLIAM C., M. D., Baltimore.
KOPLIK, HENRY, M. D.
KRUG, FLORIAN, M. D.
LEARY, ARTHUR H., M. D.
LESZYNSKY, WILLIAM M., M. D.
LEWIS, FRANK N., M. D.
LIGGETT, GEORGE S., M. D., Oswego, Kansas.
LOEBINGER, HUGO J., M. D.
LONG, J. W., M. D., Randleman, N. C.
MABBOTT, J. MILTON, M. D.
*MACDONALD, BELLE, M. D.
*MACDONALD, HENRY, M. D.
*MacDONNELL, R. L., M. D., Montreal, Canada.
MacPHERSON, J. D., M. D.
MAIN, F. W., M. D., Jackson, Mich.
MANLEY, THOMAS H., M. D.
MARKOE, THOMAS M., M. D.
MARLOW, F. W., M. D., M. R. C. S. E., Syracuse, N. Y.
MAXSON, EDWIN R., M. D., LL. D., Syracuse, N. Y.
McCAHEY, PETER, M. D., Philadelphia.
McELDERRY, HENRY, M. D., U. S. Army.
McINTIRE, CHARLES, M. D., Easton, Pa.
McINTOSH, W. PAGE, M. D., U. S. Marine-Hospital Service.
McKEE, E. S., M. D., Cincinnati.
MERENNA, GIOVANNI, M. D.
METTLER, L. HARRISON, M. D., Philadelphia.
MILLARD, HENRY B., M. D.
MORRIS, ROBERT T., M. D.
MORTON, WILLIAM JAMES, M. D.
MUNRO, W. L., M. D., Providence, R. I.
MYERS, J. FRANKLIN, M. D., Sodus, N. Y.
MYERS, O. M., M. D., Rochester, N. Y.
MYERS, T. HALSTED, M. D.
NEWMAN, D. C., M. D., Spokane Falls, Wash.
NORTHRUP, WILLIAM P., M. D.
*NUTTALL, GEORGE H. F., M. D., Baltimore.
PARKE, J. RICHARDSON, M. D., Philadelphia.
*PETERSON, FREDERICK, M. D.
PETTUS, W. J., M. D., U. S. Marine-Hospital Service.
PHILLIPS, DAVID, M. D.
PHILLIPS, WENDELL C., M. D.
PILCHER, LEWIS S., M. D., Brooklyn.
POMEROY, OREN D., M. D.
POTTER, WILLIAM WARREN, M. D., Buffalo, N. Y.
POWERS, C. A., M. D.
PRUDDEN, T. MITCHELL, M. D.
PURDY, CHARLES W., M. D., Chicago.
PUTNAM, F. W., M. D., Binghamton, N. Y.
*RABINOVITCH, LOUISE G., M. D.
RAFFERTY, OGDEN, M. D., U. S. Army.
*RANDALL, B. ALEXANDER, M. D., Philadelphia.
RANNEY, AMBROSE L., M. D.
REED, CHARLES A. L., M. D., Cincinnati.
RHEIN, M. L., M. D., D. D. S.
RICE, CLARENCE C., M. D.
RICHARDS, HUNTINGTON, M. D.
RIDLON, JOHN, M. D.
RILEY, HENRY A.
*ROBINSON, CHARLES H., F. R. C. S. I., Dublin, Ireland.
ROBINSON, F. B., M. D., Toledo. O.
ROCKWELL, A. D., M. D.
ROE, JOHN O., M. D., Rochester, N. Y.
ROHRBAUGH, E. P., M. D., Ellis, Kansas.
ROOSA, D. B. ST. JOHN, M. D.

1051392

ROOSEVELT, J. WEST, M. D.
ROSS, JAMES F. W., M. D., Toronto, Canada.
SACHS, B., M. D.
SANDERSON, COLFAX, Kansas City, Mo.
SCHMID, H. ERNEST, M. D., White Plains, N. Y.
*SHAFFER, NEWTON M., M. D.
SHERRILL, J. G., M. D., Louisville, Ky.
SHUFELDT, R. W., M. D., C. M. Z. S., Washington.
SKINNER, WINSLOW W., M. D.
SOLOW, JULIUS, M. D.
STEARNS, HENRY S., M. D.
STICKLER, JOSEPH W., M. D., Orange, N. J.
SYMS, PARKER, M. D.
TAYLOR, GEORGE H., M. D.
*TAYLOR, ROBERT W., M. D.
THOMAS, T. GAILLARD, M. D.
TURNER, S. S., M. D., U. S. Army.
UNNA, P. G., M. D., Hamburg, Germany.
VAN ARSDALE, W. W., M. D.
VAN GIESON, IRA, M. D.
VAUGHAN, GEORGE T., M. D., U. S. Marine-Hospital Service.
VEEDER, ANDREW T., M. D., Schenectady, N. Y.
*VINEBERG, HIRAM N., M. D.
WACKERHAGEN, GEORGE, M. D., Brooklyn.
WAINWRIGHT, W. A. M., M. D., Hartford, Conn.
*WALKER, D. ERNEST, M. D.
WARBASSE, JAMES P., M. D., Brooklyn.
WEBSTER, DAVID, M. D.
WEEKS, JOHN E., M. D.
WEIR, ROBERT F., M. D.
WEISS, LUDWIG, M. D.
WENZEL, MAX, M. D., Mecosta, N. J.
WHITAKER, F., M. D., Point Pleasant, N. J.
WHITE, J. BLAKE, M. D.
*WHITESIDE, GEORGE H., M. D., Paris, France.
WIGHT, J. S., M. D., Brooklyn.
WILSON, NORTON L., M. D., Elizabeth, N. J.
WOODWARD, J. H., M. D., Burlington, Vt.
WOOLLEY, D. MORRIS, M. D., Brooklyn.
WRIGHT, JONATHAN, M. D., Brooklyn.
*WYCKOFF, RICHARD M., M. D. Brooklyn.
WYETH, JOHN A., M. D.

LIST OF ILLUSTRATIONS IN VOLUME LIII.

PAGE
Prurigo Papules on Forehead and Cheek..........Facing 1
Pale Prurigo Papules.............................. 14
Prurigo during a Period of Exacerbation.............. 14
Twenty Microscopical Illustrations of Prurigo......... 14, 15
The Obstetric Slipper................................ 20
Rubber Stamps and Accurate Records. Five Illustrations. 26
Bryan's Modification of Raynor's Naso-pharyngeal Scissors.. 27
Amputation of the Left Upper Extremity, etc.......... 57
Chorditis Tuberosa. Two Diagrams.................. 86
A New Urethrotome. Two Illustrations.............. 97, 98
A Lingual Amygdalotome........................... 111
A Flexible Curette................................ 111
An Attachment to Otis's Urethrotome................ 112
The Action of the Glottis in Singing. Thirty-nine Illustrations................................... 113–120
Wackerhagen's Speculum........................... 140
Wackerhagen's Needles............................. 140
Aseptic Pocket-case Instruments..................... 170
Arterio-venous Aneurysm. Two Illustrations....... 173, 174
Tuberculosis in Children. Six Illustrations.......Facing 201
Nasal Bone Saw.................................. 228
A Modified Short Perineal Forceps.................. 256
Anatomy of the Lungs by Corrosion. Two Illustrations................................... 258–260
Aphasia. Diagram................................ 271
Stricture of the Œsophagus......................... 289
Suprapubic Drainage-tube.......................... 318
Diverging Lock Tenaculum.......................... 318
A New Thumb Forceps............................. 382
A Truss to be worn after Laparotomy................ 382
A Pelveoscope. Two Illustrations.................. 399, 400
The Adaptation of Spectacle Frames. Five Illustrations 407, 408
Hinkel's Scissor Forceps........................... 410
Ventral Fixation of the Uterus. Three Illustrations.... 437
Multilocular Cyst of the Ovary....................... 443
A New Pocket Inhaler............................. 468
Anæmic Cataphoresis. Five Illustrations.............. 474
The Postural or Lifting Couch. Two Illustrations.... 481–483
The Pathology of Infantile Cerebral Palsies. Five full-page Illustrations...........................Facing 497
Properitoneal Epiplocele.....................Facing 497
Properitoneal Hernia.........................Facing 497
Cæsarean Section. Seven Illustrations...........Facing 497
Incipient Melancholia.........................Facing 497
Cæsarean Section. Four Diagrams................. 502, 503
Properitoneal Epiplocele. Diagram.................. 511
Polyps of the Male Urethra......................... 534
Fracture of the Skull. Two Ilustrations............ 535, 536
A New Needle Forceps............................. 550
A New Ether Inhaler.............................. 579
Heloderma Suspectum............................. 583
Enchondroma of the Upper Jaw. Three Illustrations. 584, 585
The "Gastrodiaphan"............................. 601
Acute Ascending Paralysis. Six Illustrations.......... 611
Injury to the Left Supra-orbital Nerve. Four Diagrams.. 622
Goodwillie's Electro-surgical Case.................... 648
Electric Hand-piece and Push-button 648
Electro-cautery Handle............................ 649
Shielded Electrodes............................... 649
Cautery Electrodes............................... 649
Electro-cautery Écraseur........................... 650
Écraseur Shields................................. 650
Addison's Disease. Two Illustrations................ 667
The Action of Dead Bacteria in the Living Body. Ten Illustrations. ....Facing 697
Epithelioma of the Lip............................ 707
Elephantiasis of Face and Scalp..................... 707
Ectropion....................................... 708
The Value of Auscultatory Percussion. Eleven Illustrations... 712–715

THE NEW YORK MEDICAL JOURNAL, January 3, 1891.

Original Communications.

OBSERVATIONS ON PRURIGO, CLINICAL AND PATHOLOGICAL.*

By R. W. TAYLOR, M. D.,
CLINICAL LECTURER ON VENEREAL DISEASES AT THE COLLEGE OF PHYSICIANS AND SURGEONS, NEW YORK;

and IRA VAN GIESON, M. D.,
FIRST ASSISTANT AT THE LABORATORY OF THE ALUMNI ASSOCIATION OF THE COLLEGE OF PHYSICIANS AND SURGEONS.

The great interest shown in the discussion of Dr. Zeisler's paper on prurigo at our meeting last year has prompted me to prepare this essay, which will deal with the clinical aspects and pathological changes offered by that disease. Those of the older members now present will remember that at our first meeting, on the occasion of the reading of the history of a case of prurigo by Dr. R. Campbell, in the recital of their experience, the combined members could only produce six cases. Thirteen years then elapsed before the disease was again brought before this association, and then by a new member, who, thoroughly skilled in the recognition of the disease, detailed twelve cases which he had observed in Chicago in private and public practice during a period of five years. His experience certainly warranted his statements, first, that prurigo did surely exist in America; second, that the severe form prurigo ferox seu agria, while occurring in perfectly typical examples and on patients born and reared here, was of comparative rarity and was often only imported; and, third, that prurigo mitis was not uncommon here. In the discussion of this paper the members reiterated their opinion of the rarity of the disease, and, all told, gave eighteen cases as the aggregate of their experience of well-remembered cases, though the existence of a few more was hinted at. Seeing that six of the participants in the discussion last year had given their combined experience of six cases thirteen years previously, the number of new cases then cited was certainly very small when it is remembered that there were ten gentlemen present who were not members and had not been present at the first meeting. These facts will certainly prove that prurigo is, taking the aggregate of cases of skin diseases, rather rare in America. Is it, however, as rare as it was commonly supposed? Dr. Zeisler's showing is certainly contrary to such a view, and I think myself that many cases escape recognition and are classed as eczema, scabies, pediculosis, ecthyma, impetigo, and even ichthyosis. Dr. Bronson very aptly remarked last year that a bugbear had been made of this disease, and I think he is right. I have many times witnessed the diffidence and want of confidence in their diagnosis of prurigo by physicians speaking of a personal case, and the skepticism and even incredulity of their hearer or hearers. This deep-rooted opinion that prurigo is so rare as almost to be unknown in America has, I have no doubt, been the cause of many cases being overlooked and wrongly diagnosticated. Then, again, the constant changes, modifications, and complications which are so common in the course of the disease have, no doubt, very often rendered its diagnosis difficult or even impossible.

But there is another very cogent reason why the disease escapes recognition or is wrongly diagnosticated—namely, that the profession at large has not been educated to a clear idea of what it is, and that there are no plates or drawings accessible in this country which will aid them in obtaining a good idea of its clinical features. In the descriptions of this disease in our text-books (and they are drawn from or based upon Hebra's writings) much stress (and that rightly) is laid upon the intercurrent dermal affections which complicate prurigo, and on its resemblance at times to scabies, pediculosis, chronic eczema, ichthyosis, etc. The result of all this elaboration—necessary, it is true—is to bewilder a man not well versed in dermatology. What has been needed, in my judgment, in this country, where from the rarity of prurigo our clinical teachers have been unable to present typical cases to students, is a clearly marked drawing of the disease in its uncomplicated state, which shall serve as a basis of study and of elaboration. This I am now fortunate enough to be able to present. In this paper I shall detail the clinical features of quite a severe case of prurigo which is under treatment at my clinic at the New York Hospital, and show three photographs presenting graphic representations of the typical features of the disease in an uncomplicated condition. A study of the history of the case and of the drawings, I am sure, will be of benefit to any one desiring to familiarize himself with the clinical picture of prurigo proper. I shall also allude to the usual concomitants and modifying conditions during the course of the disease, and try to make clear how to recognize it even when marked by intercurrent morbid conditions.

The patient is a girl, about nine years old, thin and weakly, the offspring of healthy American parents who are in good circumstances and accustomed to good food and healthful surroundings. She is the oldest of three children. She was well, but not robust, in her earlier years, and when four years of age it was noticed that she began to scratch. At this time she was spending the summer on Staten Island, and the appearance of little red pimples and larger patches on the face, forearms, and legs led the parents to think that she was the victim of mosquitoes, as these insects were then numerous and rapacious. Close questioning of the mother led me to the conclusion that the initial eruption was urticaria or lichen urticatus. Beginning in hot weather, the eruption of wheals and the pruritus went hand in hand through the fall and winter, and ended at the onset of hot weather in the following summer. The health of the child just prior to the onset of the disease was very good indeed, and her photograph taken then shows her to have been fat and chubby. She was carefully nurtured and regularly bathed. During the first summer and fall of her sickness she seemed well, notwithstanding that her sleep was disturbed at night by itching. In this way the disease had gone on ever since, being, as compared with other and graver cases, moderately severe in winter and ceasing almost entirely during warm weather. During the existence of the disease the child's suffering from pruritus was great, but was subject to periods of exacerbation and of moderation.

The following condition was observed when she came to my clinic at the New York Hospital early in January of this year. The expression of the child's face was rather dull and was typical, in its white, waxen, somewhat ashy hue, of prurigo. Over the forehead, temporal regions, and cheeks was a copious eruption of small, conical papules, some whiter than the skin itself, others of a rather yellowish hue, and a few others again capped with a minute blood crust, the result of scratching. The appearance of the eruption was highly suggestive of comedones, but the central black plug of the latter lesions was absent and the blood crusts showed that the eruption caused scratching. Minute examination of the papules showed clearly that they were not developed on the site of sebaceous glands. In Fig. 1 the appearance of the eruption upon the face is admirably well shown. There was no marked dryness and want of vitality in the hair as shown by its dullness and roughness, as I have seen in severer cases, nor was there evidence of so much pityriasis capitis in the slight, mealy desquamation as we sometimes see. As pointed out by Hebra, the neck and nucha were not involved in the disease, but it began to develop where the shoulders merge into the neck. The eruption extends from the bases of the fingers on the backs of the hands to the elbow. It has been localized for a number of years upon the extensor surface of the forearms, entirely sparing the bend of the elbow, but at this time it showed a tendency to spread sparsely upon the flexor surface. The arms, as is the case in the mild form of prurigo, are not so much affected as the forearms, and only on their extensor and outer surfaces. A very typical picture of the disease is shown in Fig. 2 and in the very accurate waxen cast of the arm kindly made for me by Dr. F. J. Leviseur. The papules are abundant on the backs of the hands and forearms, are discretely isolated and irregularly scattered, without order or semblance of grouping. They are conical in shape, and as firm in structure as the skin itself. Some of them are of the color of the skin, others have a little reddish hue, while others, from scratching, are capped with a minute blood crust. The skin of the hands and forearms is rather darker than normal, and the natural furrows are a little deeper and wider than normal. A mild, mealy desquamation is sometimes seen by the mother. The appearance of the papules in Fig. 2 is rendered more distinct and salient by the use of a hand glass. I can imagine no better artificial picture of mild prurigo than is shown in Figs. 1 and 2. They certainly afford a groundwork for study of this curious disease in its less advanced, I may almost say earlier, phases, though this child has suffered for several years with it.

---

* Read before the American Dermatological Association at its fourteenth annual meeting, September 2, 1890.

At the early examinations of the case it was noted that the disease had skipped from the shoulders to the buttocks, where the papules are rather larger and more sparsely distributed, and the scratch marks and blood crusts on these regions tell the story of vigorous scratching. Over the outer and extensor surfaces of the thighs there are few papules, and the popliteal spaces present a normal appearance. The legs were especially worthy of study. On their outer and anterior surface were very many papules irregularly scattered in a discrete manner, and the evidences of scratching were as marked as in cases of pediculosis corporis. The discoloration of the skin and the increased development of its furrows were well marked. The papules here are seen to be quite large, while on the arms they were of the size of hemp-seeds or the head of a large pin, and conical or globose; here on the leg they attained the size of a small split pea, conical, rounded, and flat. Owing to the dependent position of the parts, and undoubtedly to the irritation of scratching, there is considerable interpapular hyperæmia, and toward the ankles evidence of inflammatory œdema, and ecthymatous and blood crusts, large and small, were scattered freely among the papules.

The ganglia in the neck are very much enlarged, those in the axillæ are larger than normal, while those of the epitrochlear and inguinal regions can be distinctly felt to be increased in size. The typical prurigo buboes, of walnut size and even fist size, were not seen in this case, and could scarcely be expected in a subject so young having a tolerably mild form of the disease. The amount of adenopathy is usually in proportion to the extent, duration, and severity of the disease. There was an entire absence of lanugo upon the backs of the hands and forearms, and the small hairs of the legs were seen to be broken off near the skin level.

Besides the visible papules, firm pressure with the index-finger tip over the skin of the forearms and legs revealed a shot-like sensation, caused by the presence there of little subepidermal papular masses. Once or twice, when no salient papules were to be seen, this manœuver revealed to the touch the hidden lesions.

From careful and repeated observations and studies I am led to think that the development and course of the papules occur in the following manner: These lesions are first noticed as little shotty bodies under the skin or, seemingly, in the rete. In this stage they may undergo involution and disappear, or they may increase in height and become more or less salient, as shown in Figs. 1, 2, and 3. In the state of salience, if not destroyed by friction or bacterial infection, they may remain unchanged indefinitely or they may undergo involution. In this latter event they then slowly or perhaps rapidly subside, the process being accompanied by mild desquamation, until either no trace of them is left on the skin, or minute shining, very slightly depressed spots of mild atrophy remain to show where the papules once were. This atrophic condition, judging from clinical observation, I should think was not permanent, but Dr. Van Gieson's pathological studies seem to give evidence that it may be permanent.

In this case, as in most others of its class, it was impossible to keep the child under such care and restraint as the gravity of its disease demanded; therefore its chronic course was complicated in various ways. Sometimes, when the treatment was carefully followed, the child's condition was improved. Then, as a result of inattention, of the want of baths, and of carelessness in diet, and perhaps from natural causes, an exacerbation would occur. The course of prurigo in this case, as in the others which I have seen, was peculiarly erratic, for when we expected improvement we sometimes found the reverse, and when we had lost hope of benefit from treatment we sometimes unexpectedly observed it. Thus it was that the child had its ups and its downs, but the disease kept on apace.

Fig. 3 shows the child's arms during a period of marked exacerbation, and it is a picture worthy of study in itself and in connection with Figs. 1 and 2. All the appearances are much exaggerated beyond those of Fig. 2. Over the backs of the hands the papules are very plentiful, and much more closely packed than is common. Over the forearms the visible papules and blood-crusted ones are very numerous, and the finger-tip revealed many hidden ones. The pigmentation was much greater than in Fig. 2, which was taken four months before Fig. 3. This increased pigmentation I assured myself was not in any way due to exposure to the sun's rays, or to heat, or any form of extraneous irritation. The mother, a sensible, observant woman, was clear on the subject that the skin of the child's arms, legs, and face became very dark at times, and then, during periods of comparative quiescence of the disease, it would gradually become lighter, so that during warm weather it frequently, to her eye, presented no temporary cyclical or irregularly appearing abnormity. This retrocession of the papules and of the pigmentation is a very interesting feature of this case, and was observed by me in one of my earlier cases. If I read authors aright, many of them are under the impression that the lesions of prurigo are of permanent character, and that they come to stay and to induce in the skin the well-known morbid changes. In the severest form of prurigo, of which I saw many years ago an interesting case in a man forty years of age, the tendency of the disease is certainly to a slowly continuous intensification of its lesions and their sequelæ. In this period of exacerbation, of which Fig. 3 presents a partial picture, the disease extended itself over the thorax and abdomen in the shape of a profuse eruption. With the increased number and distribution of the papules the child's sufferings were much intensified, and the evidences of scratching were plainly visible all over the trunk. Over the shoulders the picture strongly suggested pediculosis, while on the lower abdomen, buttocks, and thighs, the semblance to scabies in its papular form was very striking.

It was noted during the course of the disease that little scattered atrophic spots of a white color were quite often seen. These little lesions resulted from the involution of the prurigo papule, and it was evident from their examination that there had been a slight loss of tissue. As time went on, all traces of them were lost; so it is fair to suppose that no permanent deformity of the skin was induced. These spots may be seen represented on the back of the hand in Fig. 3, also along the forearm. I am not aware that attention has been called to them, since most of the existing descriptions of prurigo have been devoted to extreme phases of the disease. In his section of this essay Dr. Van Gieson describes the pathological appearances presented by these lesions.

I observed at various times a number of complications the nature of which is readily understood. Not infrequently wheals, large and small, waxy, white, and red, were produced by the child's vigorous scratching. So far as I could observe, these were only accidental, and were not the essential pathological forerunners of a papular outburst.

Then, again, evidences of bacterial infection were seen in scattered pustules, large and small, and ecthymatous crusts, which formed on the surface.

Besides these features, patches of eczema of ephemeral duration not infrequently showed themselves.

It is evident from the foregoing facts that during the eight months in which this case has been under my observation its characters and clinical features have undergone many changes and modifications, and I am certain that prior to the child's coming to me the same conditions existed. I frequently convinced myself that at certain times a diagnosis was very difficult and sometimes even impossible. I observed this same fact in the cases of the other two children suffering from prurigo seen by me.

The foregoing case is, as I have said, an excellent basis for study. In the three other cases seen by me and in cases belonging to others, I have seen more advanced and the most advanced characteristics of the disease. Prurigo supplies the essential groundwork for almost all forms of chronic inflammation of the skin. Therefore with the features of my case in mind it is easy to comprehend the more complicated cases. Progressing with various complications of long and short duration, the derma and epidermis in prurigo become thicker and denser. Then we see that pigmentation gradually sets in, that the surface lines become deeper and broader from the thickening of the horny layer, and that desquamation may be present in greater or less degree. When prurigo cases are complicated with chronic urticaria, a little time and careful watching will soon put the diagnosis beyond question. Then in the event of an eczematous complication, even if it covers the whole prurigo eruption, time and treatment will sooner or later make the diagnosis correct. I have several times been impressed with the necessity of prolonged observation in cases of chronic papular eczema with pale and even slightly red papules, which have been regarded by others as instances of prurigo. The coincident eruption can almost always be effectually cured; and then, if the case is watched, the features of prurigo (if that is the disease present) will soon again show themselves. In any case where an eczematous picture is presented and prurigo is suspected, a careful retrospect of the patient's history as far back as early years (if he or she or the guardians are ordinarily intelligent) will, I think, generally furnish facts which will enable the observer to determine whether the case began as prurigo or as eczema.

From this patient I excised two portions of skin during the time of a classical eruption of prurigo uninfluenced by any treatment, without any complication whatever, except that, perhaps, in some parts there were a few blood-crusts upon excoriated papules, and these were carefully avoided. The portions of skin contained typical prurigo papules in a presumably advancing and complete state. It will therefore be very distinctly understood that we have not submitted to study and examination any urticarial nodule or any concomitant or complicating lesion of the skin due to irritation or other accident. In other words, avoiding the errors which some authors have fallen into, clinically and microscopically, we have confined ourselves in this issue to investigating and portraying the morbid changes which take place in the skin in prurigo pure and simple.

MICROSCOPICAL EXAMINATION AND PATHOLOGY.*

The writers on the pathology of prurigo describe the changes in the skin quite uniformly, but their conclusions disagree so much and leave the subject so confused that I have studied the changes in this case independently of the work done by others, and shall describe, first, certain general changes in the skin not connected with the papules; secondly, the process of development of the papules which can be seen; and, finally, the results of the examination of the nodules underneath the epidermis which can not be seen with the naked eye but are perceptible to the touch.

The portion of the skin examined for the first two sets of changes was excised from the radial extensor surface of the left forearm. It measured about a half by three quarters of a centimetre in diameter, was stretched on cork and hardened in Müller's fluid and subsequently in alcohol. Serial sections cut by the celloidin imbedding process and stained double with hæmatoxylin and eosin were mounted partly in glycerin and partly in balsam. This piece of skin contained two of the older prurigo nodules visible to the naked eye as very minute raised brownish points about a millimetre in diameter. One of these proved to be a crust or pellicle in the thickness of the horny layer pierced by a hair and lying over the mouths of three sweat ducts. The other was a cyst in the rete Malpighii.

---

* By Dr. Van Gieson.

I. The General Changes in the Skin not connected with the Papules.

The epidermis is but little changed. The layers of the epidermis, except in a few places are regularly arranged and the topographical relations of the rete Malpighii are normal. Here and there the layers of the epidermis have an undulating outline, and the outer surface, instead of being smooth and even, is thrown up into alternating prominences and depressions. The only change in the epidermis is an irregular thickening of its layers. The rete Malpighii has a few places of localized thickening, such as shown in Fig. 4, but these are not at all extensive and are very few in number. The stratum corneum is slightly thickened in an irregular way. In some places it is normal and in other places, such as Fig. 5, there are circumscribed patches of the horny layer where the thickening is considerable in amount. A thickening of the stratum granulosum and an increase of the kerato-hyalinic substance was not observed in the places corresponding to the thickened horny layer. The thickening of the horny layer seems to be due rather to an accumulation of the horny material by its not being removed from the skin rather than to an increased production.

The changes in the derma consist of scattered larger and smaller groups of small round and small polygonal cells encompassing the blood-vessels in the lower corium and at the lower margin of the pars papillaris (Figs. 4, 5, 6, 7, 15, 20, 23). Most of these cells in these groups appear to be derived from the connective-tissue cells of the derma lying close to the blood-vessels (Figs. 15 and 20). The papillæ are as a rule but little changed, but some of them are infiltrated to a moderate extent by the same small round and polygonal cells (Fig. 7). Some of these cell groups are clustered about the hair follicles as in Fig. 23, but the cell groups have no definite position to any of the annexa of the skin, but are scattered about all through the lower corium of the whole of the excised portion of the skin.

The sweat glands are normal except that several of them have slightly dilated mouths.

The hair follicles are very uniformly changed throughout the whole portion of the skin. There are one or more pouch-like outgrowths of the outer root sheath generally situated at the lower portion of the follicle. The outer root sheath is quite uniformly pouched out at the attachment of the arrector pili muscle, which is hypertrophied. A few of the follicles with their shafts are shrunken, indistinct, and pigmented, and some of the follicles show evidences of the formation of lanugo hairs (Figs. 7, 21, 22, and 23).

The sebaceous glands are all considerably smaller than normal, although their constituent elements are but very little changed.

The small nerve trunks in the skin were carefully examined in all of the sections with the oil-immersion lens and compared with those in the normal skin, and were found unchanged, except in one or two places, when situated in or near the cell clusters in the derma. In one or two of the small bundles thus situated there is a limited swelling or proliferation of the endothelial cells of the sheath of Henle (Fig. 20).

The endothelial cells in the *lymph spaces* or small veins of the pars papillaris at or near the cell clusters in a few places are swollen and granular (Fig. 15).

Some of the prurigo papules are due to small cysts in the epidermis, and others apparently correspond to small crusts or scab like pellicles in the thickness of the horny layer.

II. Description of Stages of Development of Prurigo Papules due to Epidermal Cysts.

The earliest stage of the development of the epidermic cysts or vesicles is the widening of the intercellular spaces in several of the lowermost cells of the rete Malpighii covering an œdematous papilla. This widening of the cell spaces appears to be due to the exudation of fluid from the subjacent papilla (Figs. 8, 9, and 10). Besides the distention of the lowermost rete-cell spaces by fluid, there is a liquefactive degeneration of the protoplasm of the cells. The portion of the cell body about the nucleus apparently becomes converted into fluid, and appears as a light halo about the nucleus, while the periphery of the cell stains deeply (Figs. 8, 9, 10, 11, and 12). In a more advanced stage of this degeneration of the rete cells the liquefaction of the central protoplasm increases so that the nucleus lies in a cavity surrounded by a mere shell of the former cell body. Finally, the nucleus and remains of the cell body disappear or become converted into granular material (Figs. 13, 14, 15, and 16).

A portion of the cell bodies is also converted into a hyaline or homogeneous shining substance easily recognized by its intense affinity for eosine (Figs. 11, 12, and 13).

By reason of the combination of these two processes—the distention of the rete-cell spaces and the liquefactive degeneration of the cells themselves—due to the soaking of fluid into the rete from the subjacent œdematous papillæ, minute branching or irregular-shaped cavities are produced, and Figs. 8 to 17 show so well the stages of development from the smaller to the larger cavities that a more detailed description of their formation can be dispensed with.

Each of these little groups of degenerated rete cells or cavities can always be traced to an œdematous papilla just beneath the cavity, or in the neighborhood of the cavity. Figs. 11, 12, and 15 show the relations of the œdematous papillæ to the degenerated groups of rete cells or cavities.

The degenerated or cystic spots in the rete Malpighii produced by the œdematous papillæ do not occur at all frequently in the sections. It is only here and there, in many sections, that the incipient cavities and corresponding œdematous papillæ can be found. The places from which the drawings Figs. 8 to 16 were taken were scattered about in fifty different sections without having any particular definite relation to the other changes in the skin. In one place, however (Fig. 15), the base of the œdematous papilla is infiltrated with apparently proliferating connective-tissue cells surrounding a small vein. The position of this small vein at the base of the papilla is somewhat suggestive as to the source of the fluid. It is possible that the fluid exuded from the smaller papillary branches of this vein or from the vein itself.

In other places the derma beneath the œdematous papillæ, as in Figs. 11 and 12, is quite normal and not infiltrated with the small round and polygonal cells.

After having detailed the intermediate stages in the development of the epidermis cysts, a final stage of their development, such as is shown in Fig. 17, may be described. Such a vesicle as this becomes visible to the eye as a minute raised, brownish point, as shown in the photographs of the forearm. In this advanced stage of the prurigo papule produced by a large epidermis cyst, the superior wall of the cavity is formed by the slightly condensed or thickened stratum lucidum and granulosum, and the lateral and inferior walls are formed by the rete mucosum the cells of which below the cavity are indistinct and do not form the usually sharp boundary line with the pars papillaris. The rete cells below the cavity are degenerated as previously described, and have very much widened interspaces (Fig. 17). The cavity is situated in the middle and upper layers of the rete Malpighii and contains one or two cells looking like leucocytes, hyaline droplets, fragmentary nuclei, and the detritus of destroyed rete cells. The pars papillaris beneath the cavity contains more extensive clusters of small round and polygonal cells than elsewhere in the section.

This vesicle, then, is a later member of the series of changes shown in Figs. 8 to 16, and has become large enough to produce one of the visible prurigo papules.

The Retrogressive Changes which may occur after the Epidermis Vesicle is fully formed.—These changes I am unable to describe completely, because in the limited supply of material only one papule was found in this condition.

This retrogressive or atrophic change in the vesicles is a kind of desiccation of the rete Malpighii surrounding the cavity, and an atrophy and condensation of the underlying papillæ, occurring after the superior wall of the cavity is picked off or desquamates or the fluid of the cavity otherwise escapes to the surface. Fig. 19 shows a cyst like the one in Fig. 17, but the superior wall of the cavity is partially removed, permitting the escape of the contents of the vesicle. In Fig. 18 the superior wall is entirely absent and the vesicle has become dried up, leaving a minute atrophic spot in both the epidermis and papillæ. The rete cells about and beneath the exposed cavity are desiccated, degenerated, and partially keratinized. The interpapillary portions of the rete are shrunken and indistinct and the papillæ are dense and shrunken. Beneath the atrophied papillæ there is a very extensive cluster of small round and polygonal cells (Fig. 19).

In this way a small atrophic portion of the epidermis with its underlying papillæ may be produced corresponding to the site of the former epidermis vesicle. Such atrophic spots as these ought to show in the skin in the living subject of prurigo, and I think they correspond to the tiny white spots in the photographs.

Description of Certain of the Prurigo Papules corresponding apparently to Small Crusts or Scab-like Pellicles in the Thickness of the Horny Layer.—These are minute pellicles of granular material containing fragmentary nuclei surrounded by a thin envelope of concentrically arranged cells somewhat like those of the stratum lucidum and are situated in the midst of the horny layer (Figs. 6 and 7). The scab shown in the figures is pierced by a hair and lies over the orifice of at least three sweat ducts. This crust looks in several sections as if it pressed down on the rete (Fig. 3), because the interpapillary portions of the rete are thrust aside laterally.

The rete is perfectly intact beneath the scab, and I could not determine the origin of this scab, for only one of them was found, and this one gave no clew to its source unless it was due to an altered deposit of the secretion of the atrophied sebaceous gland of the hair passing through the crust. This does not seem probable, however, for there are many damaged sebaceous glands in the sections without these crusts or scab-like pellicles.

III. The Examination of the Hard, Invisible Sub-epidermal Nodules Perceptible to the Touch only.

For this purpose a piece of skin, similar in size and position to the first piece, containing two of these nodules, was carefully hardened in osmic acid and the positions of the nodules carefully noted, but, in examining all of the sections through the entire region of the nodules, I could find no trace of them whatsoever. The two nodules disappeared in the hardening. This piece of the skin was almost normal with the exception of the cell clusters in the derma, which were less extensive than in the first piece. The hairs, arrector pili muscles, and sebaceous glands were changed as already described.

Résumé and Conclusions.

With the exception of the systematic and conscientious paper by Morison (*Amer. Jour. of the Med. Sci.*, 1883, p. 341) and a good but somewhat diffuse article by the most recent writer on the subject, Kromayer (*Archiv f. Derm. u. Syph.*, 1890, p. 77), the deductions in the pathological literature of prurigo are largely speculative and contradictory, and at any rate fail to give a clear, concise, definite theory of the formation and course of the prurigo nodules and papules in harmony with the anatomical facts.

Knowing very well how much it hinders the progress of knowledge of a disease to make conclusions and hypotheses unconfirmed by experimental research or not warranted by the number of accurately described anatomical facts discovered about the disease—and this is decidedly the case with prurigo—I think it more appropriate for me to state the anatomical facts in this case carefully than to make any general deductions except of the most guarded and limited kind.

The anatomical processes and changes in the skin in this case seem to be as follows. There is a chronic inflammation of the derma, most extensive just below the pars papillaris, although the latter, with its papillæ, is also affected in places. This inflammation is mainly of the chronic cellular variety, produced by a proliferation of the connective-tissue cells just about the blood-vessels, although it is not unlikely that an exudation of leucocytes from the blood-vessels may play a minor rôle in the production of some of the dermic cell clusters. Along with this chronic cellular inflammation the hair follicles, sebaceous glands, and smooth muscle fasciculi become changed secondarily, or by sharing in it, as in some other chronic inflammations of the skin—as, for example, in lichen ruber—and are not in any way the primary or essential lesions of the disease. The alterations in the small nerve bundles, as shown in Fig. 20, are simply due to the fact that this portion of the nerve happened to run through a patch of the proliferating connective-tissue cells, and the endothelial cells in Henle's sheath are swelling and proliferating just as the surrounding dermic connective-tissue cells.

From the fact that the traces of the subepidermal nodules disappeared so completely in the hardening, it seems reasonable to suppose that they were occasioned by a circumscribed portion of the derma, distended by fluid, which was abstracted by the hardening fluids, and that the shrinkage of the hardening fluids obliterated the spaces in the derma where this exudation of fluid had been during life. This seems the more plausible from the fact that some of the papillæ do show plainly enough evidences of distention by fluid, as already mentioned.

As Kromayer suggests, it would be well to examine these subepidermal nodules as well as the other prurigo papules in the fresh condition. If the subepidermal nodules are produced by a circumscribed effusion of fluid in the cutis, frozen sections might throw considerable light on this point.

Although the material has been limited, and from one case only, I think that the prurigo nodules and papules are formed in the following way: A circumscribed effusion of fluid in the deeper derma, or possibly involving a group of fifteen or twenty papillæ, produces subepidermal nodules. In the course of time this fluid gradually makes its way from the papillæ into the overlying rete Malpighii and filters through the intercellular spaces. This fluid can not escape through the outer surface of the epidermis on account of the density of the stratum lucidum; thus being held in the rete Malpighii, the effusion gradually destroys the rete cells and produces a cyst which finally becomes large enough to raise up the stratum lucidum so that it is visible to the naked eye as one of the prurigo papules. In this way the subepidermal nodules which appear first make their way to the surface of the skin and produce the later visible papules.

When the upper wall of the cyst peels off or is removed, or the contents of the cyst otherwise escape, the damaged and soaked rete and papillæ beneath become changed so that a minute atrophic spot is left in the skin.

What relations the subepidermal nodules have to the cysts, or whether the cysts develop later from the nodules, or if the cysts form independently of the nodules, I could not determine from the sections alone, but it seems likely that the cysts develop from the nodules, as observed clinically.

Prurigo nodules and papules, then, seem to be due to a circumscribed effusion in the deeper derma or papillæ which soaks into the rete and produces cysts, which may subsequently atrophy, and is accompanied by a chronic cellular inflammation in the derma with secondary alterations in the hairs, sebaceous glands, smooth muscle bundles, and hypertrophic regions in the epidermis.

This explanation, however, of the formation and course of the prurigo nodules and papules leaves open the question of the relationship of the scattered circumscribed exudations of fluid to the chronic cellular inflammatory process. There seems to be no way of determining from the sections whether the exudation of fluid from the vessels occurs from the vessels first, and, by supplying increased nutrition to the perivascular connective tissue, causes them to proliferate, or whether the exudation of fluid is secondary to, or part and parcel of, the chronic perivascular cellular inflammation. Morison found in the subepidermal nodules a focus of small round and polygonal cells rather more extensive than elsewhere.

It seems to me that it is much wiser to defer the solution of the question of why it is that this exudation occurs until we find out more about the causes of inflammation in general, than to speculate upon it with the confusing terms idioneurosis, vaso-motor troubles, etc., as some of the writers have done.

The element of the results of scratching was eliminated in the portions of skin excised by Dr. Taylor.

The changes in the skin have some analogy to those in lichen ruber, and the characteristic features of chronic cellular inflammation in general—viz., its slow course, its tendency to persist for a long time, and its proclivity toward exacerbations—agree well with the clinical history of the disease.

Résumé of Pathological Literature.

Up to 1883 this literature is so clearly discussed by Morison that any allusion to it here is superfluous. Since Morison's paper the subject has been dealt with by Riehl (*Arch. f. Derm. u. Syph.*, 1884, p. 41), Leloir and Tavernier (*Annales de derm. et de syph.*, 1889, No. 7), and Kromayer (*loc. cit.*). Riehl has been criticised for having mistaken his case for one of urticaria, and at any rate his description of the papules indicates that it was not a typical case of prurigo. Leloir and Tavernier's work is of the careless, gossiping kind, and does not indicate that enough time and careful study had been spent on the work to make their conclusions at all acceptable. They describe older vesicles without stating how they are formed, and indicate a preference for the view that the vesicles are produced through the agency of the sweat ducts. Kromayer states that hardened material is not suitable for examining the changes in prurigo—and I agree with him in this, especially in the subepidermal nodules—and thinks that an exudation of fluid in the upper layers of the cutis is the primary lesion in prurigo.

SOME CASES OF PERITYPHLITIS.[*]

By B. FARQUHAR CURTIS, M. D.,
ATTENDING SURGEON TO ST. LUKE'S HOSPITAL, AND TO THE NEW YORK CANCER HOSPITAL.

According to recent views, the title of this paper should be Some Cases of Appendicitis, but appendicitis, a combination of Latin and Greek, is such an objectionable term that it is high time to make an attempt to find some word which would answer our practical purposes as well, and yet would not jeopardize the reputation of our profession for culture. Who was originally responsible for this word I have not greatly cared to discover—enough that it is now in illegal possession. The whole source of our trouble lies in the fact that Galen and the authors before him, having only had opportunity to study anatomy on the lower animals, did not distinguish between the cæcum and the vermiform appendix, their word *τυφλόν* being given to the large cæcum found in some animals, and the appendix being overlooked. They described the *τυφλόν* in such a way that Vesalius considered that they meant the vermiform appendix by that name, and he himself called the cæcum "the protuberant first part of the colon"—a distinction which was much more correct in human anatomy. Consequently the vermiform appendix has come down to us without a distinctive name in Greek, and if we wish to use the suffix *-itis*, we must supply this want in some way. Now Aristotle, in describing the intestinal diverticula of birds and fishes, uses the term *ἀποφυάς*, *-άδος*, but this would make a combination too long and uncouth for our Western ears and tongues, and *ἀποφυάς* is only a later form of the more graceful word *ἀπόφυσις*, a word which was formerly employed to some extent in anatomy, being applied to the processes of bones, but which has now fallen almost into disuse. Adding to *ἀπόφυσις* the suffix *-itis*, we obtain the anglicized word apophysitis (*cf.* epiphysis, epiphysitis). It is of course exceedingly difficult to alter any such matters of usage, and this new term is offered with the greatest modesty; but we have lately seen the profession change the older word hypodermic into the more classical hypodermatic, and I venture to hope that this suggestion will at least lead to the correction of our error, even if the term apophysitis should not obtain general favor. Apophysitis is fully as easy to remember and to pronounce as appendicitis is, so that we lose no practical advantage by our purism.[†]

The ordinary self-limiting peritonitis arising from inflammation of the appendix, with development of an abscess, is no longer of much interest, and the cases of this kind which I have seen do not seem worthy especially of report. But it has been my fortune to meet with some others which deserve a place in the record, for our information about the unusual forms of this disease is not yet definite, and every one should contribute his mite of observation to the general stock of experience.

Case I. *Gangrenous Inflammation of the Appendix.*—A physician, single, twenty-seven years of age, on September 22, 1890, at about seven o'clock in the evening, was suddenly seized with a severe colicky pain in the abdomen—so severe that he had to lie down, and to take several small doses of morphine by the mouth. He also took some castor oil, which acted during the night, and then the pain diminished, and he managed to sleep at intervals. He has frequently had attacks of colic, and some years ago he used to have them almost every day after dinner, but he does not remember any localization in the right iliac fossa, and they passed off when he lay down. He has had bronchitis for three weeks, and two days previous to this attack of pain he allowed himself to be chilled by exposure to the wind after violent exercise, and has felt as if a severe cold were about to develop.

September 23d.—He had less pain and required no opium, but about two o'clock in the afternoon he had a severe chill; his temperature ran up to 104·5° F., followed by vomiting and purging. The vomiting was very severe, and he thought he recognized intestinal contents in the vomited matter. The pain then returned with great severity. He took some calomel, which acted about ten o'clock, and he spent a fair night without morphine. The pain in these attacks extended over the entire abdomen. The following morning the pain had entirely ceased, the temperature had become normal, and, except for weakness and some tenderness which was now evident in the right iliac fossa, and which was apparent when he attempted to straighten himself up, he felt well enough to go out in a cab to see a patient. But the jolting of the vehicle brought on the same pain. For the rest of the day he felt very miserable, although without any great pain, but he kept on his feet about the house until six o'clock. The pain then became very severe, and there was vomiting and great prostration, the pain beginning to localize itself in the right iliac fossa. Between six and eight o'clock he took one grain of morphine hypodermatically in three doses, besides half a grain by the mouth, with the effect of easing the pain but not entirely dissipating it. Dr. J. B. Bissell saw him during this time, and found him complaining bitterly of pain, the face drawn, the conjunctiva suffused, a hectic flush in the cheeks, the surface dry and hot, and the abdomen tender all over, but especially so in the right iliac region, the patient saying that pressure elsewhere was painful only because "transmitted" to that spot. The abdomen was neither distended nor retracted. Temperature 102°. Pulse rapid and quick. Dr. Bissell thought that he could detect a tumor in the right iliac region, although the great tenderness of the abdomen rendered palpation uncertain. I first saw the patient, with Dr. Bissell, at eleven o'clock. His condition remained the same as when Dr. Bissell had first seen him three hours previously, and I, too, was impressed at once with the fact that he was very ill. The temperature had meanwhile risen to 104°, and the pain was returning. The entire abdominal surface on the right side was exceedingly sensitive to pressure, but a part of this was recognized as extreme hyperæsthesia of the skin. The greatest tenderness was about the "McBurney point," but even to single finger pressure it extended over an area about two inches in diameter. On account of the great tenderness it was impossible to determine whether a tumor was present or not, but certainly there was none of any size. The rectus muscle was not more tense on that side than on the other. The right thigh was flexed on the pelvis, and straightening it caused the patient great pain. The percussion note was the ordinary tympanitic one all over the abdomen. We decided that it would be dangerous to wait for more definite symptoms, especially after the occurrence of a chill and the return of severe symptoms, and the patient at once consented to an exploratory laparotomy.

---

[*] Read before the New York Surgical Society, November 12, 1890.

[†] In the discussion Dr. Stimson suggested *ἐκφυάς*, *-άδος*, but this appears to me as awkward as *ἀποφυάς*.

The operation was begun about midnight, fifty-two hours after the beginning of the disease, with the assistance of Dr. Bissell, Dr. Clark, Dr. Shiland, and Dr. Van Rensselaer, Dr. Clark administering the ether. When anæsthesia had been induced, a tumor could be felt in the right iliac region, about the size of a man's finger, its upper end being on a level with the anterior superior spine of the ilium and about two inches nearer the median line, and its lower end pointing toward the middle of Poupart's ligament. An incision, six inches in length, was made along the outer border of the right rectus. When the peritonæum was opend a little straw-colored serum escaped, and the surface of the cæcum which was lying under the wound was seen to have some of its larger blood-vessels congested, and there were a few very slight adhesions between the cæcum and the anterior abdominal wall. Upon the outer side of the cæcum was an irregularly square patch, measuring about an inch across which was of a dead white color, and appeared to us as if it would slough. It was not a deposit of fibrin, nor was it a pale spot caused by local contraction of the muscular coat. Turning up the cæcum, the appendix came into view. It lay upon the iliac fascia, pointing downward, and formed the tumor we had felt. It was about four inches long, was distended to fully an inch in diameter, and was white with a yellowish tinge, evidently about to slough. The discoloration extended upon the cæcum at the root of the appendix for about half an inch, and on the appendix near the point of junction of the two were several small superficial losses of substance involving the peritoneal coat only—beginning perforations. A very strong fæcal odor came from the appendix, but there was no pus, and no perforation could be detected. The tip of the appendix projected over the brim of the pelvis, and, although the cæcum lay in front of it, there were absolutely no protecting adhesions. It was, however, adherent to the iliac fascia, upon which it lay, by an old firm band, and its thickened mesentery bound it to the cæcum. The appendix was separated from the iliac fascia and turned up, so that it stood on end, projecting into the wound. Owing to the fact that the discoloration extended upon the cæcum, and that it was impossible to say where the sloughing process would cease, no ligature was applied, but a quantity of gauze was packed in the wound so as to shut off the cæcum and appendix from the general peritoneal cavity, and the wound was left open. The appendix collapsed in the gauze before morning, but no fæces ever escaped into the wound except a very small quantity which evidently came from the appendix, with three fæcal concretions. The slough on the side of the cæcum proved to be superficial, and I am at a loss to account for its occurrence, it was so far away from the inflamed appendix. The appendix was totally destroyed, except a narrow strand of tissue in which its blood-vessels ran. The patient had had a bronchitis for three weeks and the cough returned on the second day and alarmed me greatly, but, fortunately, it could be controlled with morphine, and consequently did no harm. Recovery was steady, although slow, being retarded by a gastroenteritis, and it was not until October 31st that I ventured to close the wound by sutures, after freshening the edges. Primary union was obtained.

I have given the details of this case very fully because the history was so exactly recorded, the patient being a physician, and the early diagnosis of a desperate condition was therefore successfully made. In this question of diagnosis I believe that it has been sufficiently proved that we must depend on the events in the history and on the general condition of the patient, rather than upon any local signs, to tell us when to operate, and when it will be safe to wait for encapsulating adhesions to form, for, as a rule, the local signs are least distinct in just the cases in which an early operation is indicated. There must be some local signs in order that we may make a diagnosis, but we can only form our opinion as to the necessity of operation by the amount of prostration, and especially by the reaction of the patient to moderate doses of morphine—as has so often been urged by Dr. Weir. The most serious complication in this case was the bronchitis, and I think that this, or continuous vomiting, form the worst complications in the after-course of such cases. In the following case I believe the patient to have been lost from this cause.

Case II. *Subacute Perityphlitis.*—Albert I., fifteen years of age, was admitted to St. Francis Hospital (where I was taking charge of the service of Dr. George F. Shrady during his absence) September 5, 1888. On September 1st, being in good health, he went swimming, and the following night was suddenly attacked by severe pain in the right iliac region. His temperature was 103° on admission, pulse 120. Pain and tenderness were most marked at a point one third of the distance from the navel to the right anterior superior spine. The abdomen was slightly distended; tympanitic resonance everywhere; no tumor to be felt. Three punctures made with an exploring needle brought no pus. The patient had bronchitis. It was not until three days later, on the ninth day of the disease, that the exploring needle obtained pus—and at that time I was accustomed to rely chiefly upon that sign for operative interference. It was not until that day, too, that a tumor could be detected, just under the point of greatest tenderness previously described, but without any dullness on percussion over it. The pus was obtained from a puncture in the lumbar region just above the middle of the crest of the ilium, directed forward and inward toward the umbilicus. The patient's temperature had fallen to 100·6°, and his pulse had improved.

An incision was made (September 8th) parallel to Poupart's ligament, beginning above the anterior superior spine of the ilium, right side. Finding that the peritonæum was free, and the intestines not adherent to it, I stripped it up as far back as the point where the puncture had been made, but no sign of inflammatory action could be found, except a little induration, and half a dozen punctures with the exploring syringe failed to bring pus. I then opened the peritoneal cavity and found the cæcum itself free, but there were adhesions on all sides around it. One of my assistants put his finger in the rectum, but there was no tumor between our fingers in that direction. I finally worked my way through the adhesions toward the middle line, and soon a stream of thin, milky pus with an offensive fæcal odor flowed out. I then made a second incision through the abdominal wall directly over the source of this pus and found a deep, narrow cavity which extended backward to the posterior abdominal wall, just admitting one finger, and fairly well encapsulated with adhesions. The cavity was irrigated and both wounds drained, with partial suture. For two days the temperature was 99°, and then, as the patient seemed rather cyanotic, I stopped the morphine which he had been getting. During the following night he had a fit of coughing, which brought on a violent pain near the wound. General abdominal tenderness developed and some tympanites; complete intestinal obstruction set in, and, without any rise of temperature (except ante mortem), he died four days after the operation. When he was in the final collapse it was discovered that there was a collection of pus in Douglas's *cul-de-sac.* The autopsy showed general peritonitis, but without pus cavities, except in the pelvis, which contained a pint of foul pus. The original abscess cavity was well drained and empty. The vermiform appendix was found lying to the inner side of the cæcum, directed upward; it was gangrenous, and near it lay a fæcal concretion.

I have no doubt that this patient was lost chiefly because I discontinued the use of morphine and thus allowed the cough to return. In a conversation with Dr. Bryant at about the time when the case occurred I related my experience to him, and he said that he had recently met with a similar unfortunate occurrence, having lost a patient who was doing well after an operation for perityphlitis by a fresh attack of peritonitis, set up by vomiting, after he had stopped the administration of morphine. In view of such possibilities it becomes necessary to consider whether a routine use of morphine after these operations would not be advantageous, at least in cases in which there is a considerable cavity and the adhesions do not appear very strong.

I have operated twice for general peritonitis due to inflammation of the vermiform appendix—both cases fatal. One I mention only for the sake of completeness of record. It occurred in (Case III) a man eighteen years old, a baker, with antecedent pulmonary disease and in feeble health, who had been ill for over a week with symptoms of local and general peritonitis. He was in very poor condition at the time of operation, which consisted in merely washing out the abdomen through two incisions and subsequent drainage, and he died in forty-eight hours after a temporary improvement. The second case possesses more interest:

Case IV. *Laparotomy and Drainage for Suppurative Peritonitis.*—Andreas S., thirty-one years of age, German, laborer, admitted to St. Francis Hospital, August 11, 1889. He was taken suddenly ill, from twenty-four to thirty-six hours previously, with a violent pain in the right iliac fossa, spreading over the entire abdomen, and vomiting, and he had had no movement of the bowels since. The patient was a very strong, healthy-looking man. The belly was slightly distended, the temperature high, and the pulse rapid; there was tenderness over the entire abdomen, but especially over the right iliac fossa, and a needle inserted here brought pus. Immediate operation, with chloroform anæsthesia. An incision four inches long was made along the outer border of the right rectus on a level with the umbilicus, and pus was found lying between all the coils of intestine exposed, with weak adhesions and apparently not encapsulated. A second incision an inch long was then made in the median line just above the pubis, and pus was found here also. The adhesions were broken down as far as they could be reached, irrigation was made, and tubes inserted. A third incision was made on the left side about three inches long, at the outer border of the rectus on a level with the umbilicus, but here no free pus was discovered; only slight adhesions. Drainage-tubes were inserted here also. Care was taken not to infect any new wound by instruments or hands contaminated with pus from the former openings. There was very slight shock (with chloroform it was possible to work with very light anæsthesia), and the temperature came down at once, but the vomiting continued. About an ounce of Epsom salts was given during the day and retained, but the bowels did not move. The vomiting and intestinal obstruction continued, and, although the discharge from the tubes became *nil,* the temperature gradually rose on the third and fourth days, and the patient died four days after the operation. The abdomen was opened after death and the peritoneal cavity was found free from pus, while the congestion and adhesions appeared much less than at the operation. The vermiform appendix was found perforated at its tip, and surrounding it was a small abscess containing a drachm or so of offensive pus, but it was entirely encapsulated against the posterior abdominal wall, and the end of one of the drainage-tubes was within half an inch of it. Death was evidently due to the intestinal paralysis due to the inflammation, for the peritonitis was, if not cured, at least on the road to recovery.

The case was an exceedingly interesting one to me, for it showed how much could be done in cases of peritonitis by simply making three or four small incisions, breaking down adhesions, irrigating, and draining, without running the risk of killing the patient by shock, as would very likely have been the result of a typical median laparotomy with evisceration and cleansing of the cavity. The chloroform was used with the idea of working with partial anæsthesia and thus diminishing shock, and it fulfilled all the expectations I had formed as in similar cases in which I have used it.

There remain two cases in which laparotomy was done for very small perityphlitic abscesses—one for recurrent perityphlitis, the other an exploratory operation for a tumor of doubtful nature which proved to be a perityphlitic abscess.

Case V. *Removal of Appendix for Recurrent Perityphlitis.*—Henry G., twenty-one years of age, single, a native of the United States, admitted to St. Luke's Hospital, December 28, 1889. Had always enjoyed good health until the previous September, when he was seized with a sharp pain in the right iliac fossa, which gradually increased in intensity, and two days later had spread over to the left side also. Nevertheless, he kept going about for two weeks and then went to a hospital where he was treated with poultices, and discharged in two weeks as cured. He did not feel able to resume work until six weeks later, but then felt perfectly well. When he had been at work for one week, doing heavy labor, he had an attack similar to the one from which he had just recovered, and lay in bed for three weeks, treating himself with poultices. He has now been out of bed for some days, but the pain in the right iliac fossa continues. The bowels have been regular throughout, he has had no gastric symptoms, and now he sleeps well. His temperature varies between 99·5° and 100·5°. Examination shows a hard mass above the anterior superior spine of the ilium, extending upward for about two inches. There is dullness on percussion over the cæcum. The greatest tenderness is in an area the center of which lies an inch and a half from the umbilicus in a line to the anterior superior spine of the ilium.

Operation, December 30th.—Incision along the outer edge of the right rectus abdominalis. The anterior abdominal wall was free from adhesions of the intestine. The cæcum was adherent to the iliac fascia and was detached with some difficulty. When it had been lifted up, the vermiform appendix was found lying behind it, directed transversely outward, and at its tip was found an abscess cavity holding about a drachm of pus, limited by firm adhesions. This cavity communicated with two perforations in the vermiform appendix near its tip, and also with a second cavity contained in the very much thickened wall of the cæcum, and from this secondary cavity two perforations close together led into the cæcum, each about a quarter of an inch in diameter. A perforation of the iliac fascia was also found, leading from the first described abscess cavity into a secondary cavity in the substance of the iliac muscle, which would admit the tip of the finger. The vermiform was tied off and the stump turned into the cæcum by two or three sutures, and the perforations in the cæcum were also closed by suture. The granulating surfaces were scraped, a drainage opening made behind above the crest of the ilium, silk sutures were passed through the abdominal wall, but left long and not tied, while the cavity of the wound was packed with iodoform gauze. The following day the temperature was 103°, but without any sign of peritonitis, and under the use of purgatives it gradually came down to normal.

January 6th.—The sutures in the wound were tightened, bringing the granulating surfaces into apposition, the gauze packing having been removed, but the drainage-tube retained posteriorly. Union by adhesion was obtained, although there was a little tension about the wound for a few days. The drainage-tube sinus closed slowly, and the patient was discharged February 25th. I have seen him recently and there is no tendency to hernia.

The most probable explanation of the course in this case appears to be the formation of an abscess at the first attack and its encapsulation, and then a rekindling of the inflammation with perforation of the abscess into the cæcum and through the iliac fascia at the second attack. It is rather curious that a process so limited as this appears to have been, the whole space inclosed by adhesions being smaller than a hen's egg, should yet have been so intense as to perforate into the gut and through the fascia. The point might possibly be raised that in this case there was a process tending to recovery, and that the operation was unnecessary; but, on the other hand, the dangers of this condition were still very great, especially if any of the intestinal contents should find their way from the cæcum into the little pocket outside of the iliac fascia, and even the unobliterated vermiform appendix was a source of possible trouble in the future. Therefore I feel sure that not only was the operation the best thing for the patient from a clinical point of view, but that, even if we had known the exact pathological condition beforehand, it was still the wisest course.

CASE VI. *Exploratory Laparotomy; Perityphlitis.*—Mary C., forty-seven years of age, a widow, born in New York, admitted to St. Luke's Hospital on August 20, 1890. The only thing in her previous history which has any bearing upon her present trouble is an attack, ten years ago, of what was supposed to be neuralgia of the right hip joint, lasting six weeks, and from which she recovered without any lameness. Last summer she felt poorly and lost flesh and strength, and had a slight diarrhœa, with two or three liquid offensive stools daily, although her previous habit had been constipated. About the 1st of August, soon after having eaten some watermelon, she was suddenly seized with a sharp pain in the lower part of her abdomen, constant in character, but occasionally shooting down into the labia. The pain was increased by straightening up, or by lying down on the back or side. She had nausea and abundant greenish vomiting for several hours. She felt feverish then and once or twice since, and had some sweating, but can not remember any chill. The pain was severe for three days, and has returned at intervals since. The bowels at first seemed distended with gas.

There is a rounded tumor of about the normal size of the caput coli to be felt in the right iliac region, its upper limit on a line drawn from the anterior superior spine of the ilium to the umbilicus. It is firm, with a generally smooth surface, but with some nodules, and over it there is dullness on percussion. The tumor is only slightly tender, and it is quite movable laterally from the median line to Poupart's ligament, but can not be moved vertically. It resembles the tumor of fæcal impaction in the cæcum. The temperature is normal.

August 23d.—Several large movements of the bowel having been brought about by laxatives, the tumor seemed smaller.

September 4th.—The cæcal tumor has disappeared. In the situation of the ileo-cæcal valve is a small tumor of rather globular shape, about an inch and a half in diameter, which is quite freely movable laterally and slightly upward. It lies on a level with the anterior superior spine of the ilium, and half-way between it and the median line. The patient's temperature has remained normal ever since admission, and she has been well, except for some attacks of pain in the tumor. The fact that we had a movable tumor, its situation at the ileo-cæcal valve, and the doubtful history of the inflammatory attacks, induced me to make a diagnosis of probable tumor of the ileo-cæcal valve, and Dr. W. T. Bull and Dr. F. T. Markoe, who kindly saw the case with me, concurring, exploratory laparotomy was decided upon.

7th.—An incision was made over the tumor, but, when the peritonæum was reached, it became evident that the tumor was adherent to the anterior abdominal wall at that point. The peritonæum was then stripped from the abdominal wall for half an inch on each side of the incision and an oval strip of it excised, which was left attached to the tumor. The latter was found to be about the size of a hen's egg and was covered with adherent omentum, and, on partly unrolling this, a cavity was opened which contained about half a drachm of pus. It was then discovered that the tumor consisted of the vermiform appendix, with a stricture near its base and a perforation at its apex, which lay on the inner side of the cæcum, directed upward, inward, and forward, and was completely surrounded by the omentum. The tumor was adherent to the cæcum, to the ileum, to the transverse colon, and to the anterior abdominal wall. But the last adhesion was along a vertical line, and all the other parts to which it was attached were movable, so that the tumor had been freely movable laterally, rocking upon its anterior adhesion. The adhesions were separated, the vermiform tied off and its base turned into the cæcum and sutured, and the mass extirpated as a whole. Some stitches had to be applied to the cæcum and the transverse colon, where the adhesions had been so strong that separating them had made the intestinal wall too thin to be safe. The abdominal wound was closed with sutures, and a drainage-tube inserted in the lower angle for twenty-four hours. The recovery was uneventful, except for some retention of secretion, which made its way out of the drainage sinus two weeks after the operation.

The intraperitoneal seat of these abscesses is now too well accepted to need the evidence of this case, which is a positive demonstration of the fact. But the case is a remarkable one in that the tumor was so freely movable.

Dr. G. M. Edebohls has reported * a somewhat similar case, which I had the pleasure of seeing with him. It occurred in a widow, thirty-six years of age, who had always enjoyed good health, and who was suddenly attacked with severe pain in the abdomen, soon localizing itself in the right inguinal and lumbar regions, but shooting also down the thigh. On the third day Dr. Edebohls operated at St. Francis Hospital, with a short incision over the tumor about two inches and a half from Poupart's ligament and parallel with it. The peritonæum was found free, but an induration was felt around the base of the appendix vermiformis at the inner side of the cæcum. The tumor was about an inch and a half in diameter, and from it projected freely the healthy extremity of the vermiform. Keeping one finger in the peritoneal cavity, Dr. Edebohls stripped off the iliac peritonæum until he could reach the tumor from behind, and it was opened at that point, discharging half a drachm of pus, without invading the peritoneal cavity. The patient recovered promptly. In this case the intraperitoneal situation of the abscess was not so clear as in mine, for it was adherent to the posterior abdominal wall, and could be opened there without opening the general peritoneal cavity. But the tumor was small and movable, as in my case. It is difficult at first thought to conceive of an intraperitoneal abscess being freely movable, and yet, in the light of these cases, it is evident that movability of the tumor does not exclude the presence of this condition.

---

* *N. Y. medizinische Monatsschrift*, May and June, 1890.

TRANSPERITONEAL HYSTERORRHAPHY:

A NEW METHOD OF VENTRAL FIXATION OF THE UTERUS WITHOUT OPENING THE PERITONEAL CAVITY.*

By FLORIAN KRUG, M. D.,

GYNÆCOLOGIST TO THE GERMAN HOSPITAL, NEW YORK.

Although we nowadays hear the statement frequently made by electricians that misplacements of the uterus will almost unexceptionally yield to the electric treatment, still there are a good many of us who have been considerably less fortunate when introducing the electrode, turning on the current, and watching the milliampèremeter. The millennium has evidently not come yet, and, while fully recognizing the galvanic and faradaic currents as valuable therapeutic agents and adjuvants in suitable cases, those who see a great many gynæcological patients will still find themselves confronted with a goodly number of retrodisplacements which will resist all so-called conservative methods of treatment, and which will ultimately call for surgical interference.

I do not propose to enter upon the question whether deviation of the uterus is a symptom or a disease, preferring to let this often-trodden topic alone for to-night. I will simply say that, while admitting that in some instances a retroflexed uterus will not give rise to any symptoms and may only be discovered accidentally, I take the ground that not infrequently such a malposition is the only apparent pathological condition when very annoying symptoms compel the patient to seek medical advice and treatment; and whether we attribute these symptoms to the retroflexion itself, or to the accompanying metritis and endometritis, or whether we consider the latter as causative of the development of the retroflexion, the indisputable fact remains that in a certain number of cases a cure will not be accomplished unless we cure our patient of the retroflexion.

No doubt this cure can in the majority of cases be effected by a well-selected pessary, by Thüre Brandt's method of massage, and by electricity. I take this for granted, and do not solicit any discussion on this subject. But, as I stated before, in some cases these methods, although faithfully and skillfully tried, will fail, and our patient will continue to complain of the same annoying symptoms. Other cases, again, are not amenable to the above-mentioned methods, owing to external circumstances. For instance, a servant girl or working woman who has to support herself, and whom you can not relieve by means of a pessary in a short time, will often be compelled to refuse a prolonged treatment by Thüre Brandt's method or by electricity, but will gladly subject herself to a surgical operation not accompanied by any danger in order that she may regain her health and the ability to make a living.

It is for these reasons that various surgical operations for the cure of retrodisplacements have been devised, and the very number of them is ample proof that not one of them has given full satisfaction. I have therefore thought it pardonable to bring before the profession a procedure which I have adopted for some time in the above-mentioned cases and which has thus far given me excellent results. Of course, it is too early yet to speak about ultimate results. The method will have to be tested as to its permanently curative effect before it can be generally adopted, still I feel justified in inviting its use by others in order that it may be tested on a wider basis and its results be compared with those of other surgical procedures devised for the same purpose.

To avoid all possible misunderstanding, I would say just here that the method is only applicable to the freely movable uterus, retroplaced or descended, without accompanying disease of the appendages. Retroflexions with fixation or diseased tubes and ovaries do not come within the scope of my paper and are not taken into consideration.

If I am allowed to give a brief review of the different surgical procedures for the cure of movable retrodisplacements and prolapsus, I shall have to mention Rabenau's method of excising a wedge-shaped piece from the anterior lip, which has been universally abandoned on account of its inefficiency. Then there is the Adams-Alexander operation of shortening the round ligaments and stitching them to the inguinal canal. The controversy over the propriety of this operation is still open, and, while a great many gynæcologists have only met with disappointment from its use and have more or less given it up, others still adhere to it firmly and seem to have desirable results. While I have practically given up the operation, I must confess that Dr. Edebohls's modification—consisting in splitting open the entire length of the inguinal canal up to the internal ring, strikes me as a practical one. It certainly renders the act of searching for the ligaments much less tedious. Still I have some serious objections to it: 1. Even if the entire inguinal canal is laid open, the ligament can not be found sometimes because of its atrophied condition. 2. I should be afraid that in some cases in the course of time an inguinal hernia might form in the cicatrix, a condition worse than the original one for which the operation was undertaken. 3. The operation requires in Dr. Edebohls's own hands at least forty-five minutes, and if, as is true in most cases, an additional plastic operation on the perinæum is required, it involves a rather long ether narcosis.

---

* Read before the Section in Obstetrics and Gynæcology of the New York Academy of Medicine, November 28, 1890.

A third way of attempting a surgical cure for retrodisplacements is the one devised by Schuecking, of Pyrmont. With regard to this, I think we can not be too loud in its condemnation. From all that I have read, heard, and seen of it, I must, for my part, denounce it most emphatically as an irrational and risky procedure. The sooner it falls into desuetude, the better for the patients. Should it become a common practice, I should expect to see many utero-vesico-vaginal fistulæ in the future. If we contemplate but for a moment the anatomical relations of the uterus and bladder in the pelvis, it seems almost impossible to thrust a trocar needle through the fundus uteri without risk of injury to the bladder. Those who believe in the operation say that this can be avoided by crowding the bladder to one side and allowing the needle to come out more on the opposite side. But if that is the case, then we have at best a latero-position of the strongly anteflexed uterus instead of the previously existing retroflexion, but never a normal condition; and I utterly fail to see what good the operation could do a patient who had a marked degree of prolapsus.

With regard to this procedure I feel as Marion Sims did when, in 1859, he had a cannula made for carrying a silver wire to be used in stitching the uterus to the anterior wall. After he had passed the instrument to the fundus he could not muster courage to plunge the weapon on through the tissues, and he did not finish the operation. I therefore consider it a much safer undertaking to open the abdominal cavity so that one can see what one is doing, and to stitch the uterus to the abdominal wall, either by passing a suture through the fundus, or by using the ovarian ligaments for that purpose (Kelly), or by Gill Wylie's or Dudley's device of doubling up the broad or round ligaments intraperitoneally. Although many operators feel nowadays justified in opening the peritonæum for the mere purpose of correcting a malposition of the movable uterus, still I must say that the propriety of this undertaking is an open question. Realizing the serious objections to major operations for a comparatively slight disease, efforts have been made by several to accomplish the same result without doing a laparotomy, thus obviating opening the peritoneal cavity and its attending risks.

As early as 1882 Caneva, of Italy, tried to fasten a prolapsed uterus to the anterior abdominal wall without opening the cavity after having cut down to the peritonæum. If I am not mistaken, Dr. T. G. Thomas has worked in the same direction by passing a knitting needle through the parietes and the uterus, and leaving it until fixation had taken place. Howard Kelly described before the American Gynæcological Society in 1889 his method of fastening the freely movable uterus to the anterior wall without making an incision at all. He said: "After emptying the bladder, cleansing the vagina and abdomen, and shaving the pubes, the patient is brought on her buttocks to the edge of a low table, and her legs straddled over the knees of the operator, who is sitting. The uterus is then brought to anteflexion, and its posterior surface pushed up against the anterior abdominal wall just above the pubes by means of two fingers in the vagina pressing on the anterior face of the uterus. In this way the fingers, acting through the uterus, force the skin and subjacent tissues into a prominent hillock just above the symphysis pubis. The operator then takes a stout, well-curved needle, threaded as a carrier, and, with a turn of the wrist, sweeps the needle through skin, subjacent tissues, and uterine body, and out on the other side. It should be directed with a view of passing deeply into the body of the uterus. The silkworm gut or silver wire is then drawn through by the carrier thus introduced and pulled up taut, and shotted close to the abdomen. One or two more sutures are passed in the same way above this, and under each of the shot a silver coin with a slot in it is slipped, which prevents ulceration of the skin from pressure. The suture should be well watched, kept antiseptic, and the patient kept in bed two weeks, when the sutures are cut and pulled out."

But, in the July number of the *American Journal of Obstetrics*, page 729, Dr. Williams has published the ultimate results of this operation, which, as he says, has failed to accomplish its purpose. Dr. Kelly himself states, in a note appended to the same article: "The above attempt to perform hysterorrhaphy without opening the abdomen promised at first to yield very important results. I am therefore very anxious, after having fully tested the method, to record the results and discourage any further attempts."

Of late, Assaky, of Bucharest, has reported several cases before the Berlin Congress in which he employed Caneva's method for prolapse of the uterus with good results. He states, however, that this method is contra-indicated in all retrodisplacements, even if there are no adhesions or diseased ovaries. He makes an incision in the median line, of from five to eight centimetres, down to the peritonæum, and sutures the uterus to the anterior wall with two or three silk ligatures.

Before proceeding further and before passing any criticism upon the latter methods, let me describe the plan which I have adopted, and which seems to me and a number of gynæcologists with whom I have communicated especially well adapted for the treatment of obstinate cases of movable retrodisplacements which do not yield to the ordinary therapeutic measures. It is, furthermore, a valuable help toward curing prolapsus of the vaginal walls and uterus when accompanied by other surgical operations—viz., amputation of the hypertrophied cervix and plastic operations upon the vagina and perinæum.

The patient is prepared for the operation with the same care as for laparotomy. The bowels are freely moved, a bath is given, the pubes is shaved, and the entire field of operation, abdominal walls as well as vagina, is rendered thoroughly aseptic. The patient is then placed in Trendelenburg's posture—namely, with the pelvis elevated at an angle of at least forty-five degrees. A sound is then introduced into the uterine cavity, while a tenaculum holds the anterior lip of the cervix, and a catheter is placed in the bladder, which has been previously emptied. The assistant who is trusted with said instruments brings the uterus forward against the anterior wall, no force being necessary for that purpose, as there are no adhesions. The uterus can now be felt clearly by the operator. Should the ligaments be so long as to allow the uterus when anteverted to take a position too far above the symphysis pubis, it can readily be put in a position closer to the latter by a slight pull on the tenaculum. After having thus selected a suitable place where to ventro-fixate the uterus—say, a little above the symphysis—a very small incision is made in the linea alba, in lean persons not over three quarters of an inch long. In cases in which there is a good deal of adipose tissue an incision of from an inch to an inch and a half may be necessary.

After dividing cutis, fascia, muscle, etc., the serosa is exposed, and the finger, then introduced into the wound, will readily recognize the fundus uteri immediately under the serosa, Trendelenburg's posture preventing the intestines from slipping in between. I now tell my assistant to make slight movements with the catheter and the sound alternately, and in this way I can easily make out the bladder and avoid it. I then pass a needle, which I had made especially for this purpose, entirely through the abdominal walls, about a quarter of an inch from the edge of the incision. The needle is Peaslee's, made on the Hagedorn principle, with the exception that the eye is placed somewhat farther back from the point, thus allowing a longer cutting edge on the back. After the needle has entered the abdominal cavity, it can be easily felt between the uterus and the peritonæum. I then use the cutting edge on the back of the needle to denude about a square inch on the anterior surface of the uterus. The needle is then passed through the body of the uterus, taking up sufficient thickness of tissue, and allowed to come out at a place corresponding with the point of entrance. It is then threaded with a strand of silkworm gut and withdrawn, bringing the end of the suture with it. In order to make sure that the ligature has taken hold of the body of the uterus, I give it a slight pull, and the assistant who is holding the sound can immediately tell that I am pulling on the uterus. A second suture is introduced in the same manner. The two strands are now tied, and generally prove sufficient to close up the entire wound. If not, one or two additional superficial sutures are introduced into the abdominal walls. An aseptic button, with two holes, may be suitably included in the ligatures holding the uterus, in order to prevent them from cutting down too deep into the abdominal walls. The wound is dressed in the usual way.

As a rule, the entire operation does not require more than from five to eight minutes. If there is to be a plastic operation for repair of the perinæum, the patient is placed in the lithotomy position and the further operation proceeded with. The patient is kept in bed from ten to fourteen days. The ligatures are allowed to remain from four to six weeks, when, on removal, the uterus will be found firmly adherent to the anterior wall in a normally anteflexed position.

In the six cases so far operated upon by me I have never seen any rise in the temperature, or any complication following the operation, and no bladder symptoms have ever been observed. Let me now give a very brief history of the cases:

Case I.—Miss M., aged twenty-one, normal menstrual history up to a year and a half ago, when, after a severe fall, she commenced having pains in the back and abdomen previous to and during the menstrual period. Obstinate constipation. Has been under treatment for a year, pessaries and other means being used without any improvement. Condition before operation: Freely movable retroflexed uterus; normal appendages. Operation June 21, 1890: Transperitoneal hysterorrhaphy. Discharged cured July 20th, the uterus then being adherent, in good position. The symptoms had disappeared. The patient was seen again November 18th; had been quite sick with typhoid fever since the operation. The uterus was not firmly adherent to the anterior abdominal wall, although there was no retroflexion. No constipation. Only slight pain during the last menstrual flow.

Case II.—Mrs. F., aged twenty-three, mother of three children. Former history normal up to the last confinement, when she suffered a laceration of the perinæum. Since then there has been considerable backache and pain in the abdomen preceding and during menstruation; leucorrhœa, constipation, inability to do housework. Present condition, June 23d: Laceration of the perinæum, laceration of the cervix with erosion, movable retroflexion. The patient had worn a pessary before. Was operated upon July 8th; transperitoneal hysterorrhaphy. Discharged cured July 23d; uterus in normal anteflexion, adherent to the abdominal wall. In order to test the procedure, the plastic operation was not done on the perinæum in this case. The patient has been seen several times since; has menstruated normally; the erosion of the cervix has healed; all former symptoms have disappeared. In fact, she feels so well that she now refuses to have any operation done on the perinæum.

Case III.—Miss W., aged twenty-nine. Menstruation began at the age of sixteen; was always preceded and accompanied by a good deal of pain in the back and abdomen. Her condition has become worse during the last eighteen months, although under constant treatment with pessaries, massage, and electricity. Marked anæmia, headache, great nervousness. Present state (September): Movable uterus, retroflexed to such a degree that the fundus could be felt lower than the cervix. Appendages normal. Transperitoneal hysterorrhaphy performed September 25th. Mechanical result: The uterus normally anteflexed, adherent to the abdominal walls. The local symptoms have disappeared; the general condition of the patient somewhat improved.

Case IV.—Mrs. S. T., aged twenty-five, married four years, had one child three years ago. Menstruation normal after confinement. Later she has had all the symptoms of laceration, with pain in the back and abdomen before and during menstruation, and difficult defecation. Present state (before operation): Complete laceration of the perinæum; retroflexed, movable uterus, pressing on the rectum. Appendages normal. Operation October 18th: Transperitoneal hysterorrhaphy; Tait's perineorrhaphy. Uninterrupted recovery. The patient menstruated on November 5th without any pain or difficulty. Discharged November 9th. Perinæum well healed; sutures holding the uterus well still in position.

Case V.—Mrs. B., aged thirty-eight, married ten years, mother of four children; has had prolapsus for the last eight years, which has become worse since last childbirth. Backache, dragging-down pains in the abdomen, inability to do housework. Present state (when operated upon): Large cystocele and rectocele; cervix at the vaginal entrance. Operation, October 1st: Transperitoneal hysterorrhaphy. Uninterrupted recovery. October 14th, the uterus was found firmly adherent to the anterior wall; the cystocele had disappeared, an anterior colpo-perineorrhaphy being, therefore, unnecessary. A plastic operation (Hegar's) was done on the posterior vaginal wall and perinæum. Patient discharged November 12th; uterus firmly adherent to abdominal walls; perinæum fully two inches and a half long; all former symptoms had disappeared.

Case VI.—Mrs. H., three children, laceration of perinæum since last childbirth. Was operated upon in a hospital in Boston; not benefited. Still complains of backache, pelvic pain during and before the period; unable to do her work. Present state (before operation): Laceration of the perinæum; cicatrix from the former operation; uterus prolapsed and retroverted, movable; appendages normal. Operation, November 18th: Transperitoneal hysterorrhaphy and Hegar's colpo-perineorrhaphy. Uninterrupted recovery. Uterus adherent to abdominal wall.

While the first case can not be taken as a fair test of the operation, owing to the intercurrent illness, the patient having acquired typhoid fever, yet the operation has accomplished in the other cases all that could be expected of it. While I am fully aware that it is too early yet to proclaim them as permanently cured, still I have great confidence that no recurrence will take place. I certainly have benefited my patients greatly while all other methods previously employed had completely failed.

It is clear to my mind why Howard Kelly has failed to effect a cure in his cases. Passing a suture through the abdominal wall without opening the cavity does not set up a sufficient amount of adhesive peritonitis to insure ventral fixation. The same objection applies to Caneva's and Assaky's method as well, although theirs is preferable to Kelly's, because it certainly offers less risk of injury to the intestines. In order to insure ventral fixation I consider it indispensable to denude a portion of the anterior surface of the uterus, which can be readily accomplished in the way already described.

I might be asked why not, after cutting through the abdominal walls, open the peritonæum? My answer is that, even in the hands of the expert operator, there is still a mortality of from one to three per cent. in uncomplicated cases of laparotomy. I think I can avoid just that small percentage.

As this operation can be done in a much shorter time than the Alexander-Adams operation, and certainly does not involve more risk to the patient, I should prefer it even if the results were only equally good.

Certain objections might be offered which apply to all hysterorrhaphics, especially the one that, should the patient become pregnant, it might interfere with carrying the child to term. This objection, however, does not hold, as has been shown in cases of repeated Cæsarean section in which there certainly must have been a large amount of anterior adhesion.

It might also be supposed that, since the uterus is a pelvic organ, it should not be fixed in the abdominal cavity. My answer is that, even granting this, yet the uterus certainly has no business outside of the vagina, or away behind, pressing on the rectum. Moreover, it does not matter to the patient whether it is a pelvic or an abdominal organ so long as it does not trouble her.

In closing, I should like to say that I do not want the operation to be considered a panacea which should be employed in every case of movable retroflexion and prolapsus, but only in well-selected cases where the ordinary measures have been tried and failed, or where for extraneous reasons they are not applicable.

13 East Forty-first Street.

A CASE OF
EXTENSIVE INJURY OF THE ABDOMEN.

By J. FRANKLIN MYERS, M. D.,
SODUS, N. Y.

I recently had a case which may be worthy of reporting on account of the great extent of the injuries sustained:

George S., aged twenty-two, while coupling cars, was caught between two bumpers and severely crushed, resulting in the following injuries:

There were five openings into the peritoneal cavity, with extensive lacerations of the greater omentum. The largest of the five openings was six inches long. It was located in the left iliac region, extending from about two inches above and to the inside of the superior spinous process of the ilium in both directions upward and outward, and upward and inward toward the linea alba, thus forming an obtuse angle with its apex above and inside of the spinous process of the ilium, and its base formed by a line drawn from one iliac crest to the other.

There were two openings about two inches in length, parallel to and just below the free border of the ribs. There was one about an inch, and one half an inch between the ninth and tenth ribs. From the largest opening a portion of the external and internal oblique muscles, equal in extent to four square inches, was torn and left on the cars. A large portion of the colon and small intestines protruded, which he partially covered with a very dirty shirt. The intestines were exposed to the cold about two hours. On the outer and under side of the descending colon was an abrasion, from which the blood oozed, about an inch wide and six inches long. The cartilages uniting the three lower ribs were fractured; also the apex of the twelfth short rib was bent in. With my hand in the abdominal cavity under the bowels I pushed it back. I tied bleeding arteries, and amputated lacerated portions of the greater omentum.

The protruding bowels and abdominal cavity I washed with a corrosive-chloride solution one to a thousand. I put back the bowels, and brought out the lacerated portions of the omentum to fill the place where the muscles were torn away. I brought the muscles together with silk ligatures, and the integument, by stretching a little, I made to cover all, after first inserting a rubber tube in the left side running down under the bowels and bladder. I applied iodoform freely and put on a dressing of iodoform gauze and antiseptic cotton. The next morning I found my patient with a temperature of 100° F., but the temperature remained constant for about a week, and then lowered to the normal. There was some cystitis and retention of urine, necessitating the use of the catheter for three days. I used a poultice of hops over the bowels and bladder, and antifebriles internally. I prevented the bowels from moving for a week

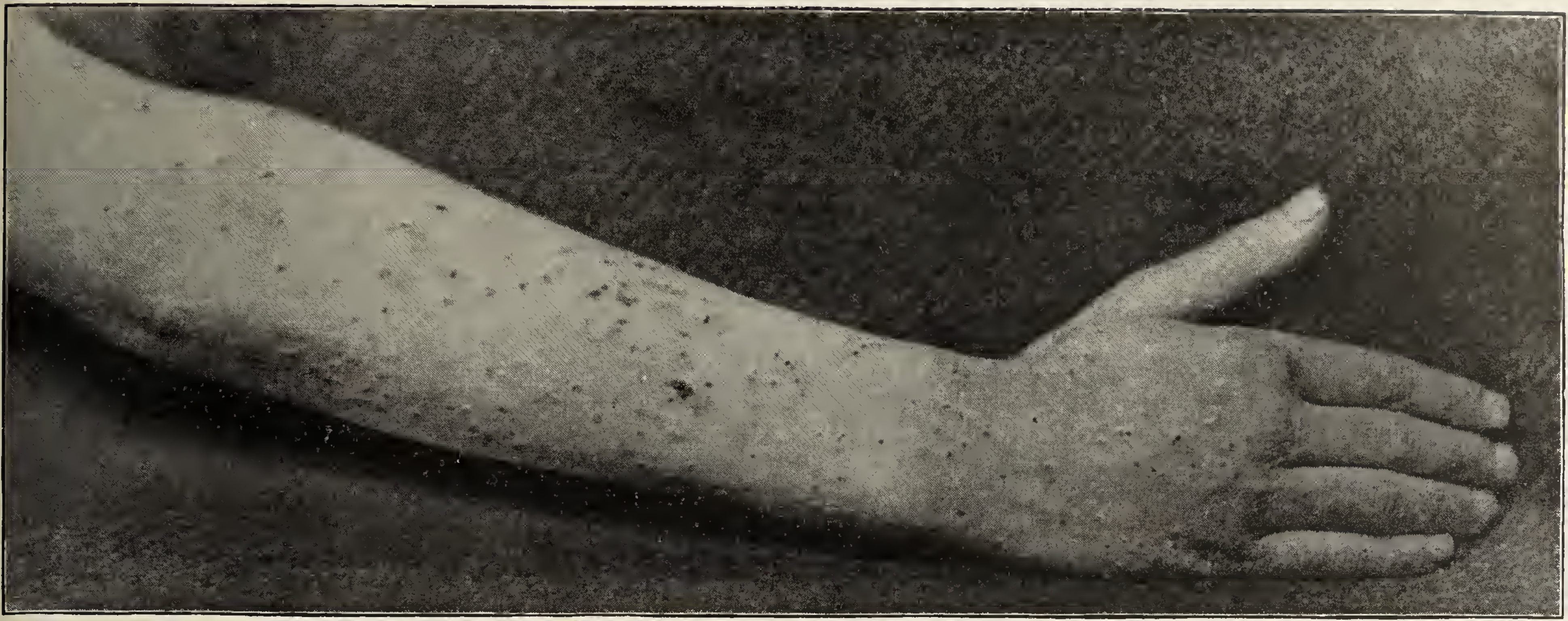


Fig. 2.—Showing pale prurigo papules, and some capped with minute blood-crusts.

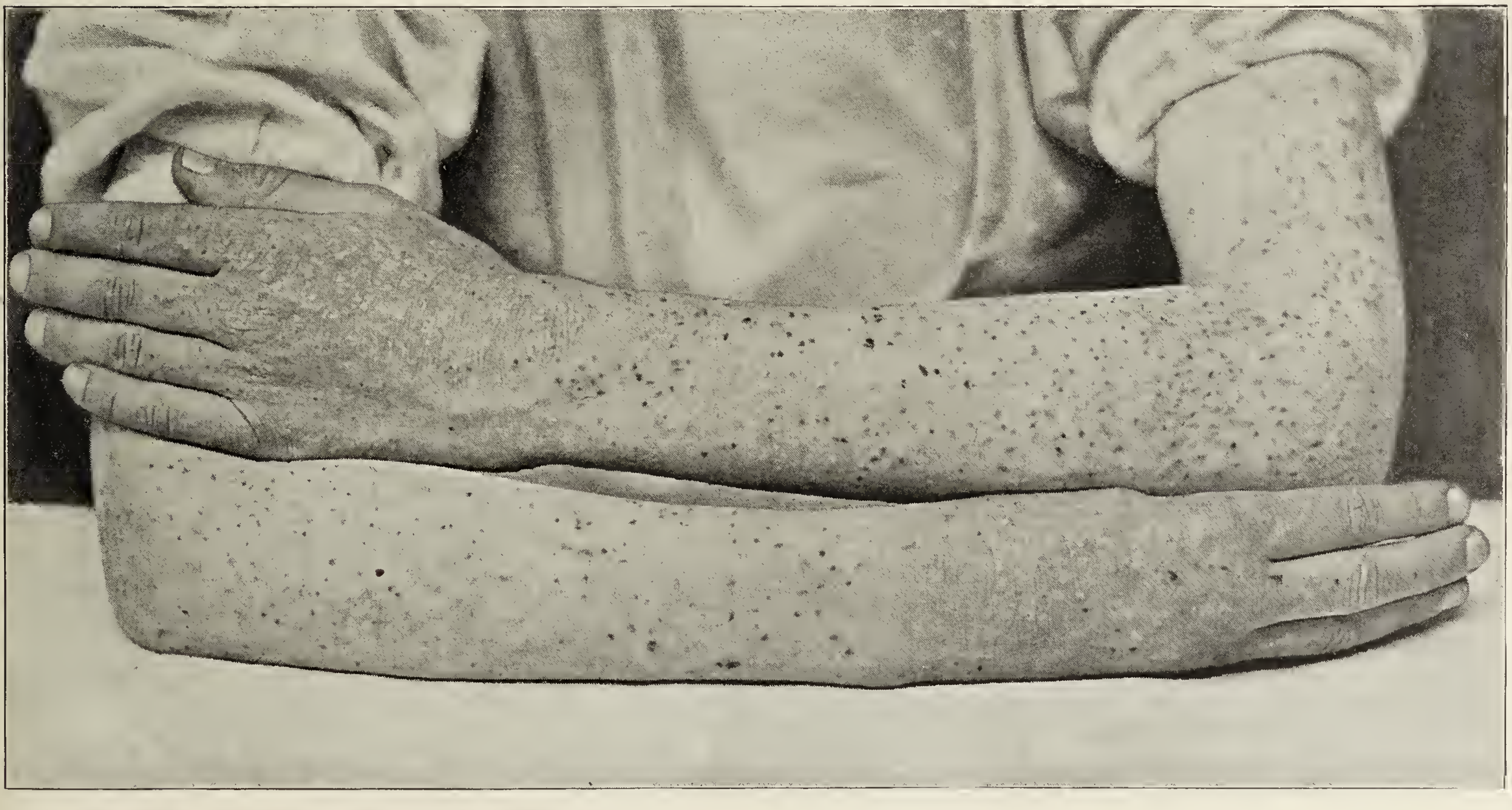


Fig. 3.—Showing the eruption of prurigo during a period of exacerbation.

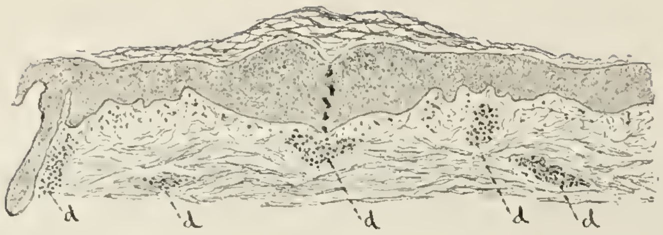


Fig. 4.—Showing a localized hypertrophy of the rete Malpighii, containing a sweat-duct, over which the stratum corneum is slightly thickened. *d*, clusters of small round and polygonal cells.

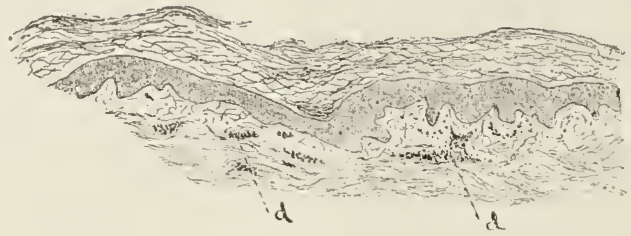


Fig. 5.—A portion of the skin with thickened horny layer. *d*, as in Fig. 4.

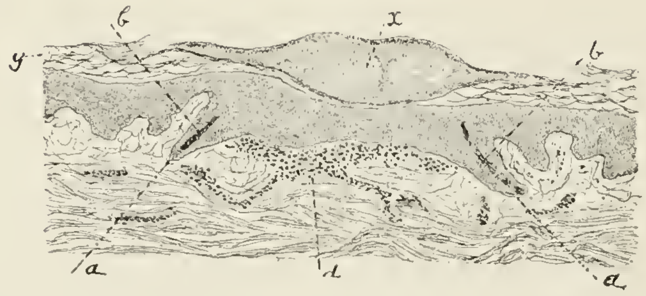


Fig. 6.—Section through a minute pellicle or scab in the horny layer at *a a*. The interpapillary portions of the rete are thrust aside laterally, as if due to pressure from the pellicle. *b b*, sweat-ducts. *d d*, as in Figs. 4 and 5.

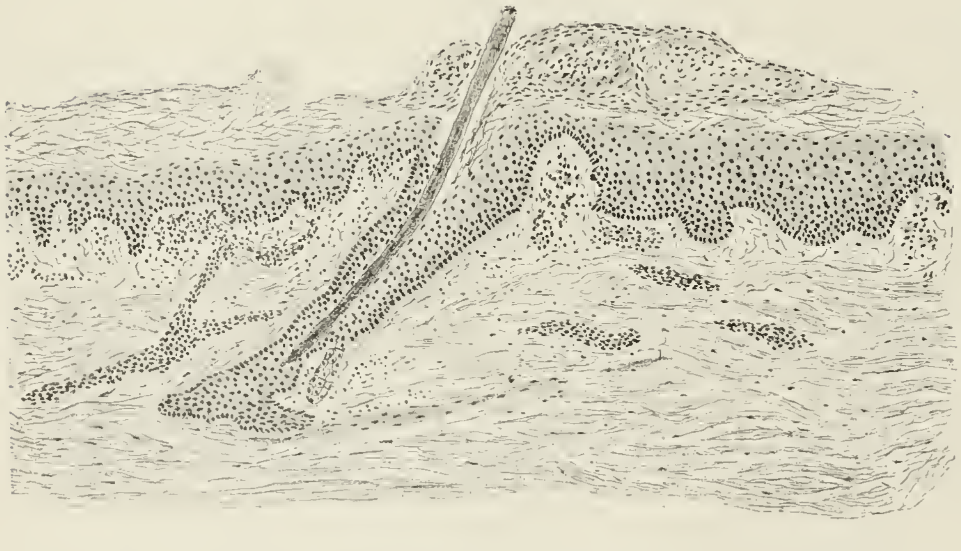


Fig. 7.—Section with a hair passing through the same pellicle or scab shown in Fig. 6. The horny layer is slightly thickened. The hair follicle shows outgrowths of the outer root-sheath and atrophy of the sebaceous gland. The cell-clusters, similar to *d d* in Figs. 4, 5, and 6, infiltrate both the papillæ and deeper derma in the section. The arrector pili muscle is shown, and is somewhat hypertrophied.

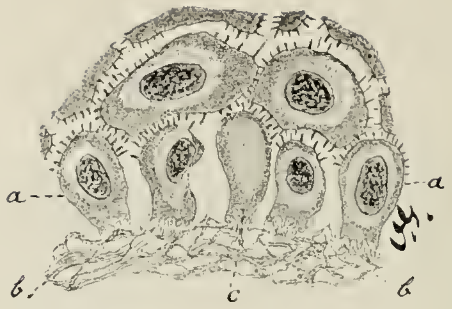


Fig. 8.—Showing a widening of the intercellular spaces of the lowermost cells, *a*, of the rete Malpighii, as if distended by fluid passing into the rete from the subjacent corium, *b*, whose interfibrillary spaces are distended and œdematous. The rete cells also show a liquefaction of the perinuclear protoplasm, especially in the cell *c*.

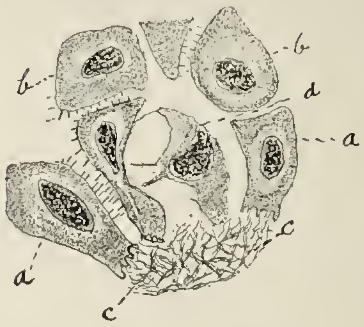


Fig. 9.—Showing a more advanced stage of the distention of the intercellular spaces of the lowermost cells of the rete Malpighii (*a*, lowermost rete cells; *b*, layer of cells just above the lowermost cells; *c*, œdematous subjacent corium). *d*, one of the lowermost rete cells changed into a branching cell surrounded by a large space occasioned by the transudation of fluid from the pars papillaris into the rete Malpighii.

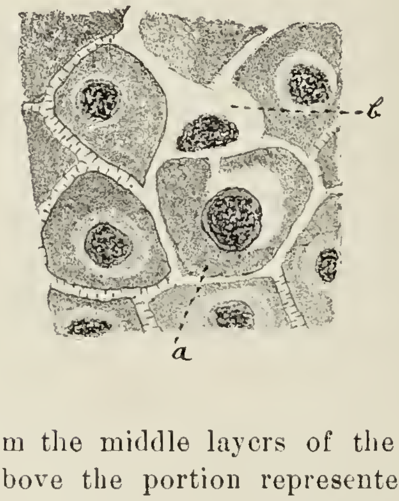


Fig. 10.—From the middle layers of the rete Malpighii, just above the portion represented in Fig. 8. *a*, partially destroyed rete cell. *b*, apparent complete destruction of the cell-body of a rete cell, producing a minute branching cavity communicating with the cavity in the cell *a*. The intercellular spaces of the surrounding cells are somewhat widened, as if distended by fluid.

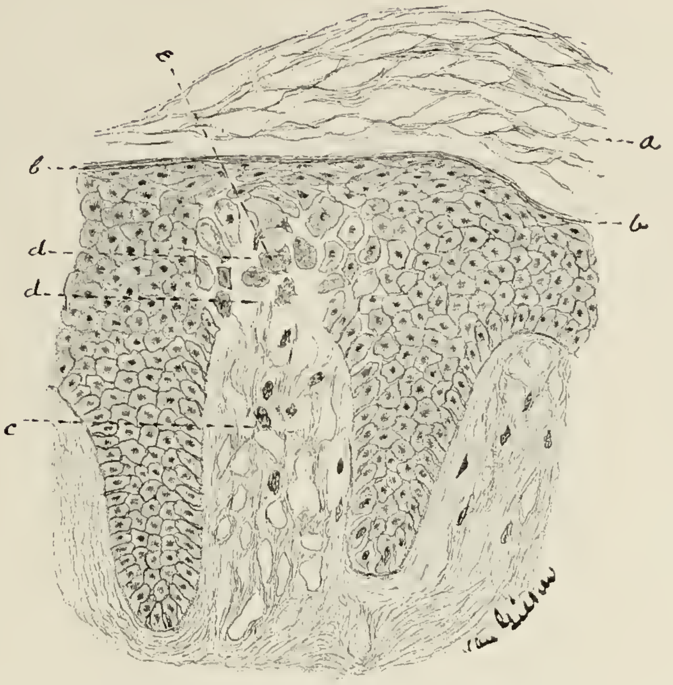


Fig. 11.—A more advanced stage of the degeneration of a group of rete cells and distention of their interspaces, due to the transudation from a corresponding œdematous papilla. *a*, stratum corneum. *b*, stratum lucidum and granulosum. *c*, œdematous papilla. *d*, small branching cavity in the rete Malpighii. *e*, darkly shaded group of rete cells affected with hyaline degeneration. The surrounding pars papillaris is normal.

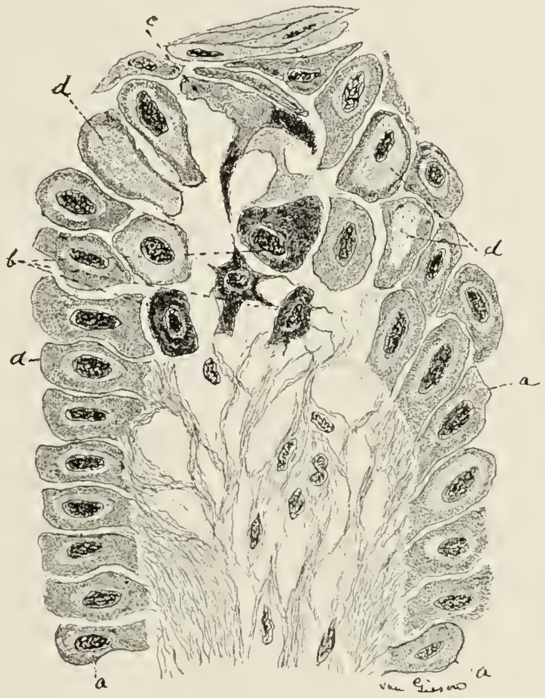


Fig. 12.—A more highly magnified drawing of the œdematous papilla, and degeneration of the rete cells shown in Fig. 11. *a*, lowermost rete cells; the darkly-colored cells *b*, and portions of the cell *c*, have undergone a hyaline degeneration. *d d d d*, partially degenerated cells.

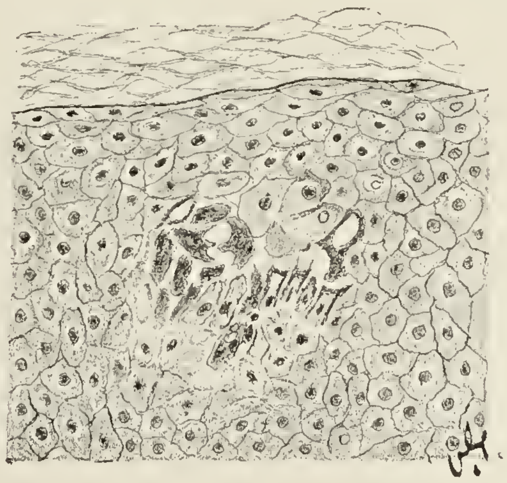


Fig. 13.—Illustrating the hyaline degeneration—indicated by the darkly colored cells—of the rete cells in the middle layers of the epidermis and the formation of a small cyst.

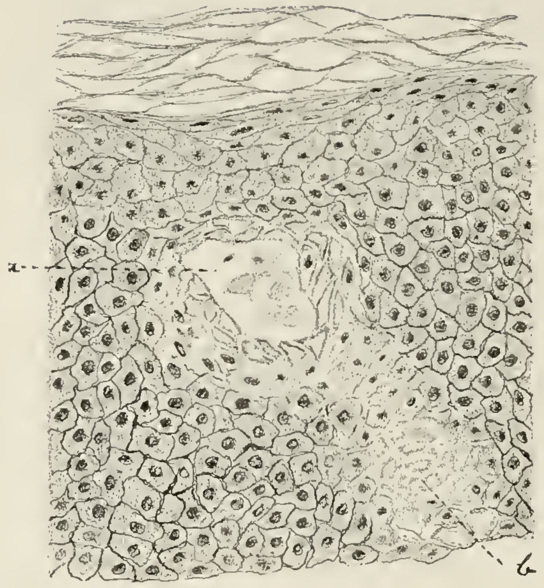


FIG. 14.—Showing the formation of an incipient cavity in the upper layers of the rete Malpighii, by the destruction of the rete cells, due to the transudation of fluid from an underlying œdematous papilla. The cavity at *a* appears to be the result of a more advanced stage of the degeneration of the group of cells at *b*.

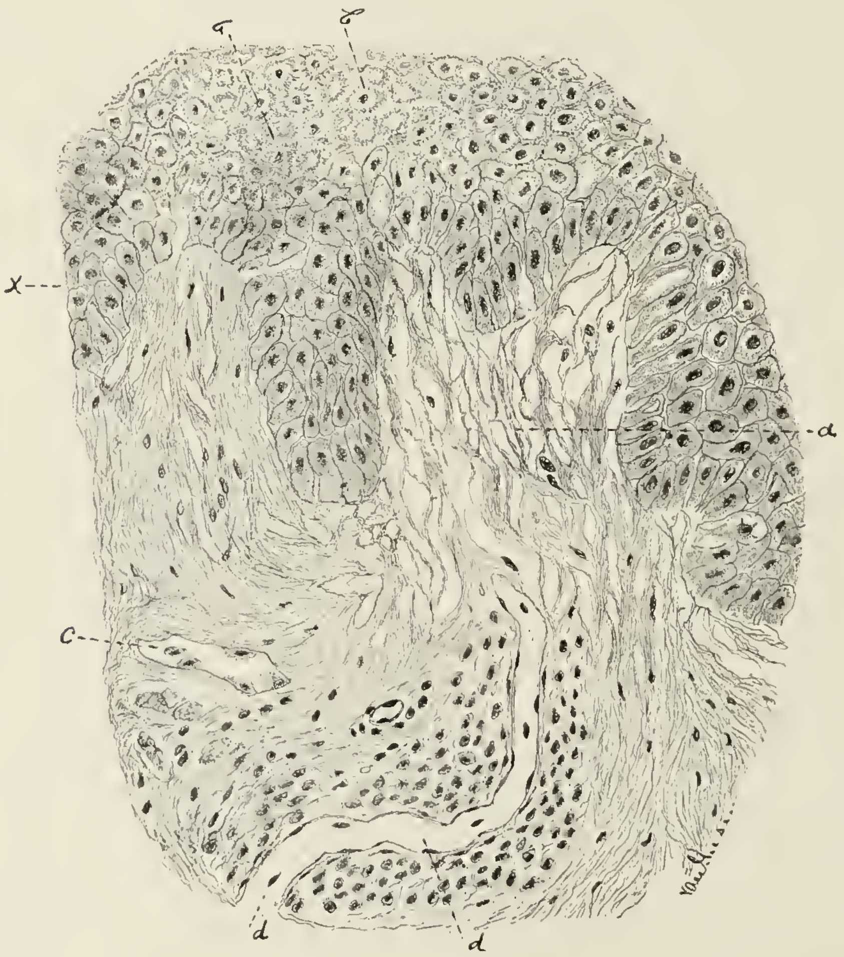


FIG. 15.—Showing one of the earlier stages in the formation of the epidermis cysts and the relation of the beginning cysts to the œdematous papillæ. *a*, œdematous papilla. *b*, group of degenerated or liquefying rete cells. *c*, lymph space (or small vein), with swollen endothelial cells. *d*, a small vein surrounded by swollen or proliferating connective-tissue cells and a few cells having the appearance of leucocytes; the situation of this vein is somewhat suggestive as to the source of the fluid exudation distending the interfibrillary spaces of the papilla, *a*.

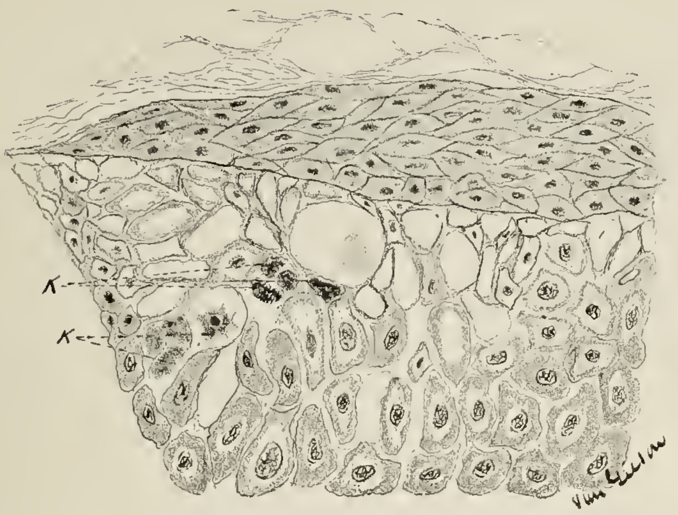


Fig. 16.—A portion of the rete drawn from a place above the point *x* in Fig. 15. In this section many of the rete cells have entirely disappeared, which, with the widening of their interspaces, forms a small cavity. *b b*, rete cells in a condition of hyaline degeneration.

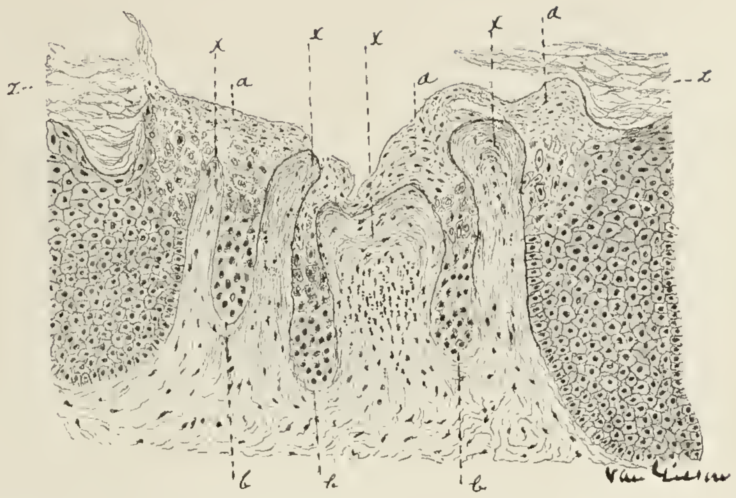


Fig. 18.—Showing the atrophic changes which may occur after an epidermis vesicle is completely formed. In this vesicle the upper wall has been removed or has desquamated, the contents have escaped, and the tissues surrounding the vesicle have a desiccated appearance. *a a*, dried-up or atrophic rete Malpighii, somewhat keratinized. *b b*, shrunken and degenerated interpapillary portions of the rete. *x x x*, dense and shrunken papillæ. *z z z*, horny layer.

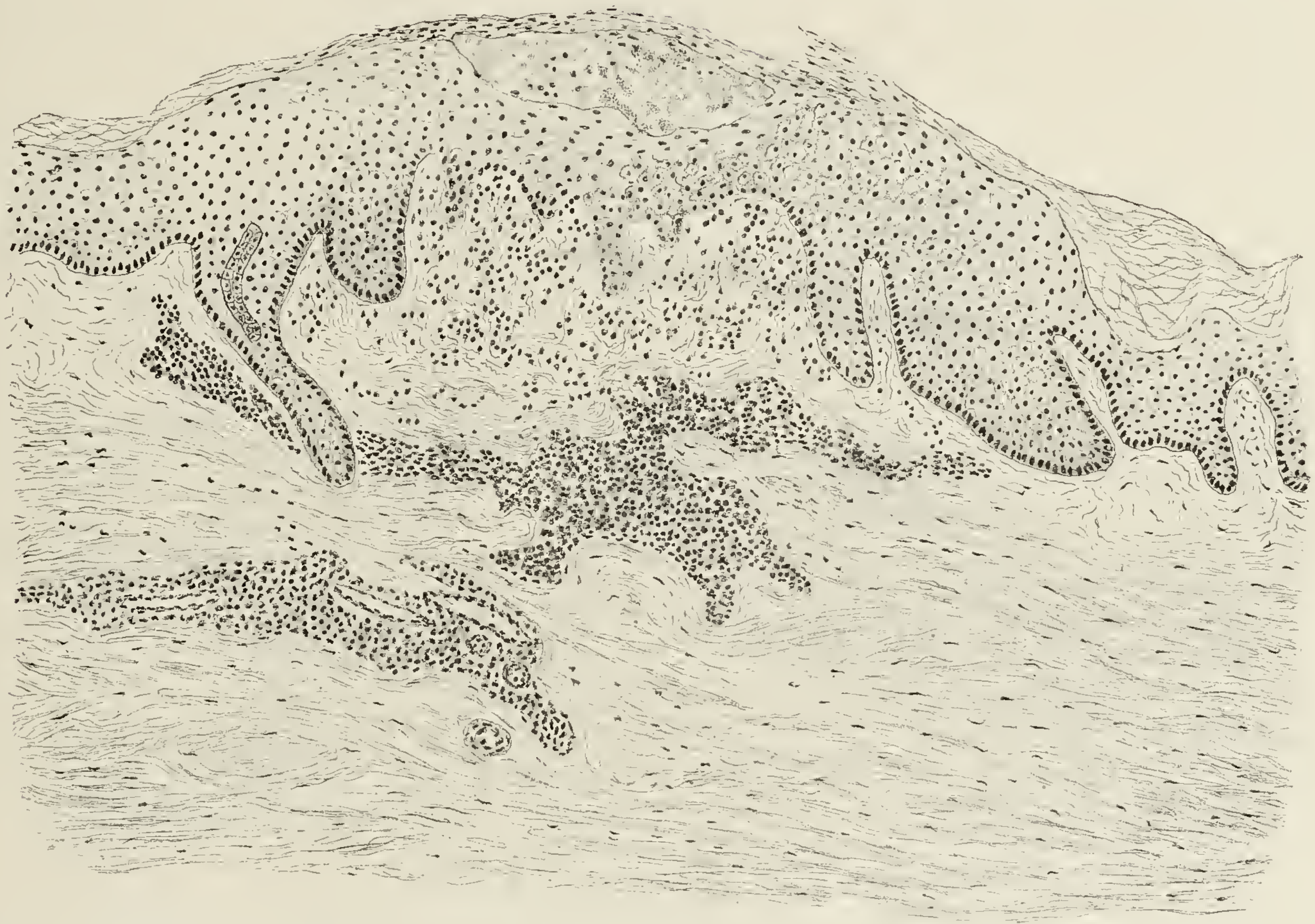


Fig. 17.—Illustrating a final stage in the production of the formation of the epidermis vesicles. The vesicle, filled with granular detritus and fluid, occupies the upper and middle layers of the rete Malpighii; the roof of the vesicle is bulged slightly upward; the rete cells beneath the cavity are degenerated and œdematous; the underlying papillæ are infiltrated with small round and polygonal cells, which form two circumscribed clusters in the subjacent derma. This region of this vesicle is raised above the skin, and this vesicle formed one of the visible prurigo papules.

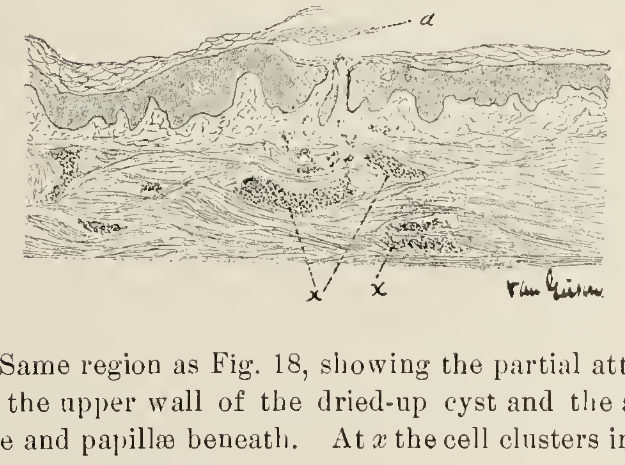


Fig. 19.—Same region as Fig. 18, showing the partial attachment of the upper wall of the dried-up cyst and the atrophic rete and papillæ beneath. At *x* the cell clusters in the derma are very extensive.

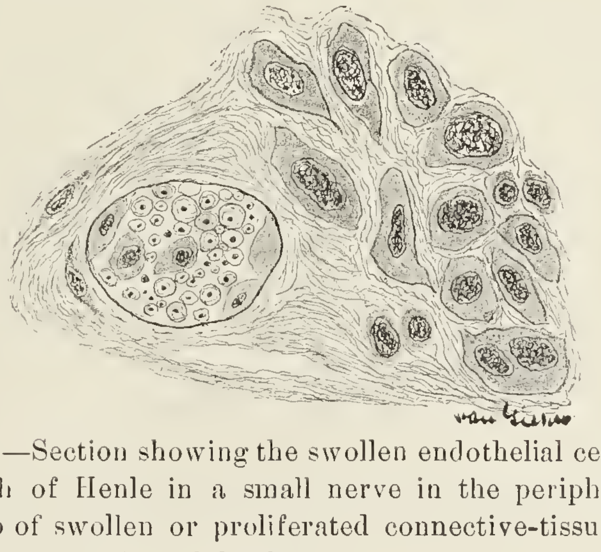
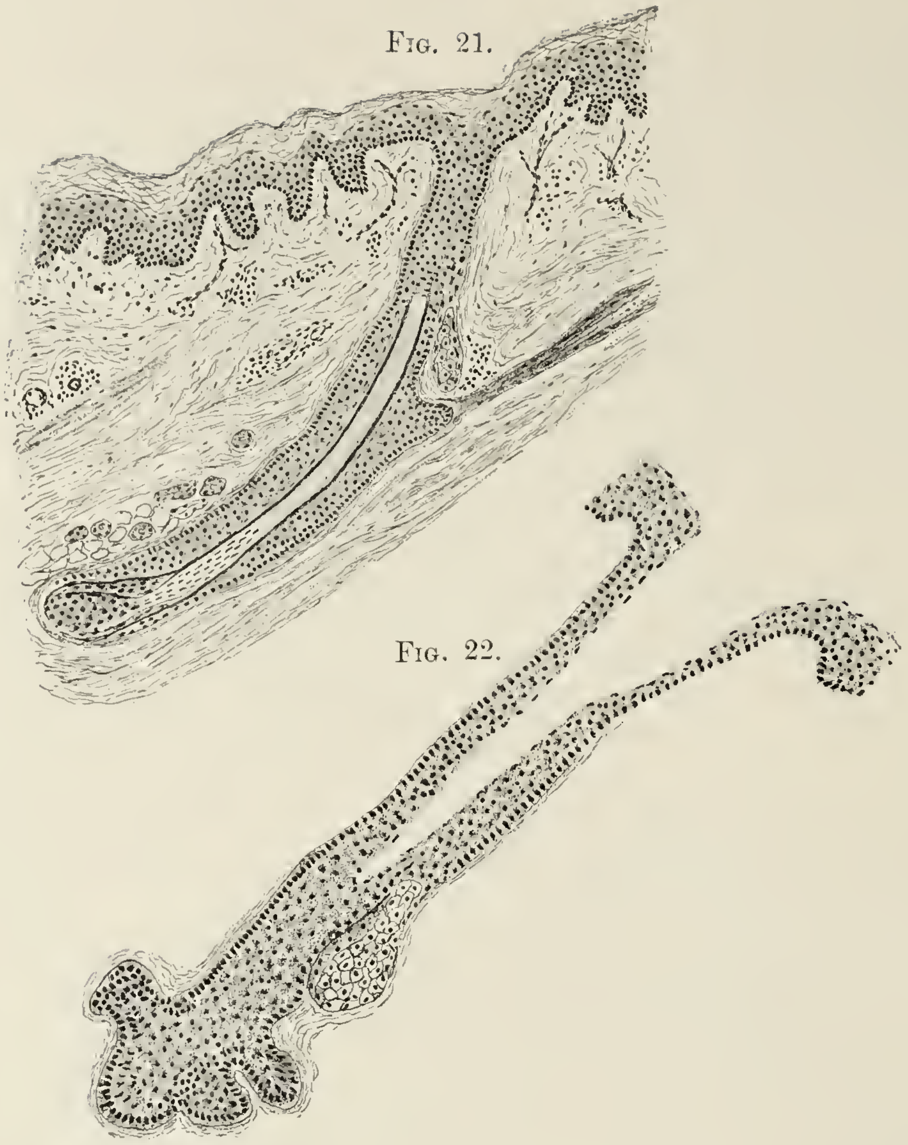


Fig. 20.—Section showing the swollen endothelial cells of the sheath of Henle in a small nerve in the periphery of a group of swollen or proliferated connective-tissue cells in the lower portion of the derma.

Fig. 21.

Fig. 22.



Figs. 21 and 22.—Sections of hair-follicles showing the pouch-like outgrowths of the outer root-sheaths, and the atrophied sebaceous glands. Fig. 21 shows the pigmented and beginning atrophic change in the papilla of the hair, and an outgrowth of the outer root sheath, just at the attachment of the hypertrophied arrector pili muscle.

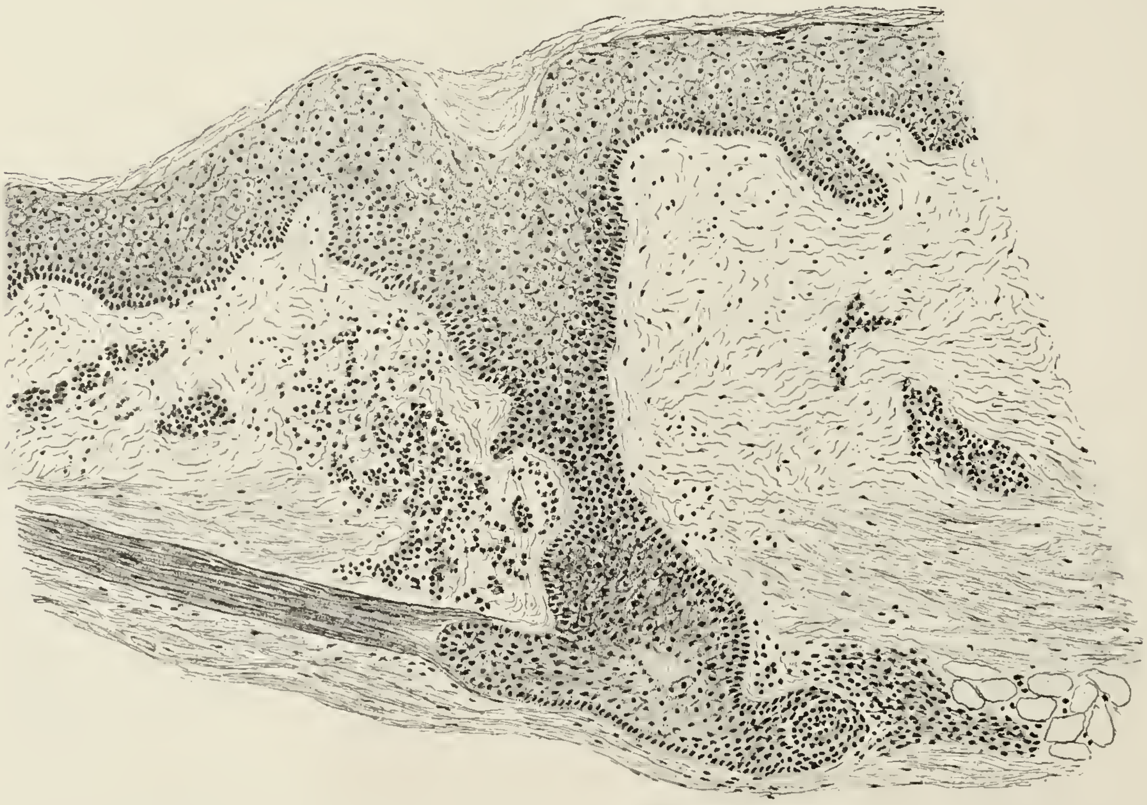


Fig. 23.—A hair follicle showing the same changes as in Figs. 22 and 23, somewhat more highly magnified.

by opiates, and gave no nourishment but beef tea. I then opened the bowels with an enema.

At the end of two weeks there was no suppuration and the wounds had begun nicely to heal, but, having to open the dressing to examine the tube, there was after that a suppuration of the wounds on the surface, but they had already closed at the bottom. At the end of six weeks he is out of bed and recovery is complete.

Correspondence.

LETTER FROM WASHINGTON.

Preparations for the Next Annual Meeting of the American Medical Association.—Medico-legal Questions.—The National "Zoo."—The New Surgeon-General of the Army.—The Journal of the American Medical Association.—The Health Office and the Scarlet-fever Bill.

Washington, *December 31, 1890.*

Dr. D. C. Patterson, the chairman of the Committee of Arrangements for the next annual meeting of the American Medical Association, has taken the preliminary steps for the organization of the committee and appointed the chairman of his sub-committees At a meeting of the committee held at the Arlington last week there was a full attendance, and considerable enthusiasm was manifested to make the forty-fourth meeting of the historic association a success. Professor Kleinschmidt, the secretary of the committee, had his work well in hand.

An interesting point in legal medicine was raised by counsel in the Ward trial, which resulted in the acquittal of the accused, but not on the point in question. The question was raised by the counsel whether the treatment of the wounded man had been proper. The deceased, Maurice Adler, had been shot in the neck with a pistol ball. At the necropsy the ball was found in front of the fourth cervical vertebra. It had entered the back of the neck and glanced from the spinous process of the fourth cervical vertebra, and at the *sectio cadaveris* it was found that the spinal cord was uninjured, and exhibited no traces microscopically or otherwise of a traumatic lesion. On the stand, one of the attending physicians testified that the enormous doses of morphine given the patient were for the purpose of preventing tetanus; and another testified that, after the bullet wound had healed, the neck was cut into on account of the continuing paralysis, and the spinous process and laminæ were removed with cutting forceps. Other physicians were brought on the stand and swore that the deceased was a sufferer from constitutional syphilis. Counsel for the defense announced their intention of traversing the treatment by asserting the impropriety of the treatment with morphine and of the vertebral resection, and the surgeons here expected a rather lively time. Old text-books were brought out and the questions thoroughly studied, but in the mean time Dr. Walter Kempter and Dr. W. W. Godding testified, in answer to hypothetical questions, that the accused, Ward, was suffering from *mania a potu* at the time of the shooting, so the defense rested their case without stirring up the surgeons any further. It is only fair to the physicians who testified to the syphilis of the deceased to say that they protested against giving the testimony, but the Court compelled them to testify, ruling that, in the absence of any statute, the common law rule did not exempt them; and so, with the penalty of contempt of court staring them in the face, which meant either a heavy fine or imprisonment in jail, they had no alternative. It appears, however, that there has been a ruling of the Supreme Court of the United States, by Mr. Justice Field, in the case of Totten, administrator, *vs.* the United States (2 Otto), to the effect that the confidential statement of a patient to his physician was a privileged one, but the point was overlooked at the trial. One well-known physician said he did not mind going to jail in such a cause, but he could not afford to be ruined by a succession of fines.

Professor Frank Baker, the well-known anatomist, has been appointed Curator of Comparative Anatomy at the Smithsonian Institution, and *ex-officio* Superintendent of the National Zoological Park. This "Zoo" has been provided with a home in the woodlands on Rock Creek, a charming suburb of the capital, and Professor Baker will have the amplest opportunity for the study of comparative anatomy in its "native lair."

The appointment of Colonel Charles Sutherland to be Surgeon-General of the Army gives great satisfaction here, where the medical department of the army is deservedly popular. His friends successfully made the contention, as against one of the other applicants, that Dr. Sutherland had served many years with troops in the field; that he had served in every territory and in Indian campaigns, and was thus entirely familiar with the actual wants of the service; that, if he had not many medical men backing him outside of the service, it was because he had never been permanently stationed in Washington, where he could work up influence; and that, if an officer who had not been thus identified with troops was appointed, the effect would be demoralizing, and the Pinafore rule might as well be adopted at once. The Pinafore rule, it will be remembered, was thus announced by "Sir Joseph Porter, K. C. B.":

> "Stick to your desk and never go to sea,
> And you all may be rulers of the Queen's navee."

The recent action of the trustees of the American Medical Association in voting to move the *Journal* to the capital, unless the association should object, meets with general approval, as there is now no medical journal published here, and consequently there are no conflicting interests to be antagonized. To some of the anxious ones who see a great sectional issue in the question, it is simply said that this is the only capital, that the national association should issue its *Journal* at national headquarters, and that, if the capital is wrongly located, they should move it.

The District Health Officer, Dr. Smith Townsend, is pleased at the passage of the act requiring compulsory notification of cases of scarlet fever and diphtheria. He had advocated its enactment in substantially the same form for many years, but finally the medical society appointed a committee, consisting of Dr. Hamilton, Dr. McArdle, and Dr. Franzoni, to draft a bill, and on their report the proposed bill was debated, amended, and, after considerable discussion, passed without opposition. The bill finally passed Congress without important change and is now a law. The health office will send out the blank forms for reports in a few days.

The Urine in Children's Diseases.—"M. P. Binet, writing in the *Revue médicale* on the Urology of Children, states that albuminuria is the rule in febrile infectious diseases, only slight traces existing in the majority of cases. It is generally most severe in diphtheria, independently of the necessary correlation with the fever and the gravity of the disease. The detection of peptonuria is subject to error. Peptonuria is not very common in children, at any rate in appreciable quantity. It usually coexists with albuminuria, and it is most frequently observed in diphtheria, especially in the graver forms, and in nephritis. Diaceturia is common in infectious diseases, and especially in scarlatina. It is exceptional in simple uncomplicated diphtheria."—*Lancet.*

THE
NEW YORK MEDICAL JOURNAL,
A Weekly Review of Medicine.
Published by D. Appleton & Co.
Edited by Frank P. Foster, M. D.

NEW YORK, SATURDAY, JANUARY 3, 1891.

LEFT-SIDED AND RIGHT-SIDED DISEASE.

Unilateral manifestations of disease are both curious and interesting. There is a distinct difference between the right and the left side, unless this inequality has been in a measure overcome by training, as in the case of pugilists and violin-players. Anatomically, the human body presents asymmetry in its bony framework and in muscular development. There is also a functional difference. The right is the side of most energetic activity. The left holds back, as it were, and is distinctly weaker. It develops more slowly in its totality and in its parts.

The inequality of the lateral halves of the body has been carefully considered in its different aspects by Rollet, Malgaigne, Galippe, Giles de la Tourette, and others. Pathological conditions due to excessive development, such as exostoses, hypertrophies, or supernumerary organs, are commonly found on the right side. These conditions are rare on the left. This, however, presents the most extended pathological field. The left side is the chosen site of malignant disease, of abnormities due to delayed union or arrested development, and of degenerative tissue change. Man goes to pieces on the left side with such surprising facility that the prognosis in left-sided disease is much less favorable than in disorders of the right side. In the *Gazette des hôpitaux* for September 6, 1890, Dr. Broussole, of Dijon, records numerous facts and personal observations to prove that the work of physicians and surgeons is chiefly to the left of the median line. Of organs in pairs when one alone is attacked by disease, it is usually the left. In the case of single organs, those on the left side are the preferred victims. Unilateral pulmonary phthisis, for instance, beginning on the left side, runs a more rapid course than when the disease manifests itself first in the right lung. Then the pathological process is comparatively slow and the outlook much more hopeful.

Of left-sided disease, common ear troubles, gastric ulcer, orchitis, oöphoritis, tubercular affections of the kidney, and pseudo-lipoma are notable examples. Lipoma occurring in the course of myxœdema the author found in marked degree on the left side in one instance, while on the right this abnormity was scarcely perceptible. Cancerous degeneration of the subclavicular lymphatic glands following abdominal carcinoma was recorded in twenty-one cases out of twenty-seven. In the course of left-sided carcinoma of the abdominal parietes that afterward attacked the thoracic wall, there was carcinomatous degeneration of the cervical and inguinal glands of the same side only. At no time did the disease cross the median line, and the autopsy revealed the total absence of all visceral lesion on the right side. Tumors in and about the orbit, together with those of the optic nerve, are more frequent on the left than on the right side. This is also true of unilateral hæmatoma and malignant growths in the breast.

In abnormal conditions of the nervous system, left-sided manifestations are also most common. Cerebral hæmorrhage is generally into the left hemisphere; hence the frequency of right sided hemiplegia. Hysterical hemianæsthesia is in the majority of instances on the left side. This is also the case in unilateral facial atrophy, ovarian hyperæsthesia, and chorea. Lateral curvature of the spine in syringomyelia is nearly always in the dorso-lumbar region, with its convexity to the left. Ordinary lateral curvature is situated higher and presents a right-sided convexity. It has been suggested that this difference constitutes a valuable point in the diagnosis of syringomyelia. Zoster is almost always unilateral, usually on the left side. Epithelioma of the lower lip, as Heurtaux long ago pointed out, predominates to a remarkable degree on the left side. This is also a peculiarity of epithelioma at the corner of the eye, and on the cheek, the tongue, or the upper jaw. When this disease affects the right side, its development is less rapid. Malignant tumors of the tonsil, of the parotid gland, and of the larynx have a distinct predilection for the left side. The larynx, on the median line and in itself symmetrical, presents admirable facilities for prognosis on the basis of locality. Fauvel reports thirty-seven cases of malignant tumors in this region, of which twenty-six began on the left side. In the celebrated case of the late Emperor Frederick the first vegetations and ulcerations appeared on the left side. This fact of localization should have attracted attention at once.

Anomalies and irregularities of the teeth exist more often on the left than on the right side. The teeth on the left side are smaller, possibly weaker, and more subject to decay. Displacement of the kidney, as well as cancer or other tumors of that organ, usually occurs on the left side. Lymphadenoma, adenitis, and neoplasms of the vulva are most frequently unilateral, and thus they oftenest affect the left side.

Of right-sided disease, pleurisy, carotid aneurysm, torticollis, hæmatoma of the sterno-cleido-mastoid muscle in the new-born, hypertrophy of the thyreoid gland, exostoses of the extremities, dermoid cysts, and abdominal hernia are notable examples. Lateral curvature of the spine is apt to be to the right, the convexity existing on the side of the body that is the least developed. Hemiplegia and atrophy of the tongue are usually on the right side. Occupation neuroses, growing out of undue exercise and strain of the right side, such as writer's cramp, for instance, naturally find expression on the right side. This is also the chosen territory of muscular atrophy.

There are anomalies in disease that express themselves unilaterally without regard to right or left. Potain has reported unilateral anasarca that was general on the side affected and which never crossed the median line.

The cheiromancers, palm-readers, and all those queer occult people, say that the right hand is the hand of the race or family, but the left is the hand of the individual himself. It is impossible, they affirm, to read his history clearly without studying the lines of both. Health, fortune, disposition, and personal attainments make furrows in the left palm. But the history of ancestral benefits or struggles is found more clearly in the right. May not this be a rather fanciful way of saying that the vital side manifests the accumulated experiences of three, or four, or four hundred generations, and that the left, the weak or personal side—weak as is one against the many, as the individual and his efforts are weak in comparison with ancestors numerically strong and deeds numerically great—is distinctly individual, though less, and the real unit? The right, or race, side is the stronger side, and is always trying to get the better of its weaker fellow. The step of the right foot in both men and women is longer, and the angle at which the foot is turned outward exceeds that of the left by one or two degrees. After walking for some distance—to the extent of unconscious fatigue—there is a tendency to turn toward the left, as if the stronger side of the body were constantly gaining on its weaker half. The unconscious veering toward the left is best demonstrated with the eyes closed.

The question of human dynamics and physical inequalities or antagonisms offers much of the charm that surrounds the mysterious and unknown. The investigations of the French writer cited are sufficiently wide in range to prove that certain conditions in given localities are just what might have been expected, and that location in reference to the median line has something to do with prognosis.

THE KOCH TREATMENT.

There are indications—feeble, to be sure, but recognizable—that we are verging on that stage of consideration of the Koch treatment of tuberculous disease that will be marked by something better than an impulse to rush to Berlin, and, having reached that city, a propensity to telegraph back a string of idle paragraphs; something more to the purpose than the recital from week to week of the number of Koch injections given at such and such hospitals, with hasty statements as to the patients' condition before and after the operation. The medical profession is beginning to realize that it will be just as well to wait and see what comes of it. The experiments now in progress must be carried on for months before they can lead to any really profitable literature, and for this purpose it is to be hoped that the supply of the Koch liquid can be kept up. There seems to be some uncertainty on this point, and that renders it unwise, we think, to devote any of the stock on hand to such random experiments as that of testing its action in cases of cancer. It is stated that such experiments are being made, and that their object is not so much to give the victims of cancer the benefit of the possibility of a curative action as to test the question of the dependence of cancer on a micro-organism. The application of such a test argues a presumption on the part of the experimenter, not only that the Koch liquid acts on bacilli directly—an assumption positively at variance with Koch's own idea—but also that the cancer microphyte, if there is one, will give rise to the same reaction as is seen in tuberculous subjects on the employment of Koch's treatment. Without denying the possibility that one or both of these assumptions may turn out to be correct, we believe the possibility to be so slender that the inquiry seems a waste of time as well as of a material difficult to obtain.

It is reassuring also to observe signs that the Koch syringe is being laid aside. We are unable to see that it has any advantages over the ordinary subcutaneous syringe, and it appears to be less suited to measuring the amount of liquid thrown in at each injection. Admiration for Professor Koch and a disposition to follow his methods precisely in matters of detail need not restrain one from discarding his syringe, for an instrument essentially the same was used in France many years ago as an aspirator for withdrawing the lymph from vaccine pocks. The piston syringe is handier and, we believe, quite as readily disinfected.

As we have said, months of experiment will yet be required before the main question as to the curative action of the Koch liquid can be considered as settled, but observers need not wait until they have formed their conclusions on that point before they acquaint the profession with the occurrence of peculiar phenomena or the absence of phenomena alleged to be usual.

MINOR PARAGRAPHS.

THE HOSPITAL AT GREYTOWN.

A well-equipped hospital exists at Greytown, Nicaragua, having a capacity of 125 beds. Dr. J. Edward Hubbert is the surgeon in charge. It belongs to the Canal Company and is for the benefit of its employees. The material largely used in the construction of the hospital buildings—twelve in number—is corrugated iron, thus obviating in part the dangers of fire and infection. The wards are said to be furnished throughout with all the appliances that are found necessary in the best regulated hospitals of New York, while, thanks to the mild climate, measures for ventilation have been available that could not be employed in colder climes. A corps of trained nurses has been taken down, also a competent pharmacist with a liberal provision of drugs. The deaths among inmates during the first year have been only 1·33 per cent., inclusive of accident cases and locally contracted maladies; the mortality by endemic causes has not exceeded two thirds of one per cent. of the admissions from those causes. The diseases contracted there by the workmen are not, as it was at first supposed they would be, of a malarial character in an excessive proportion. Only 51 per cent. of the cases during a period of three months during the summer of 1890 has been due to fever of any type; the disorders have been almost as various as would have been found, for the same number of persons, in a more temperate climate. An ambulance service has been organized, also three subordinate hospital stations along the line of the canal, where the work is busiest, with an assistant surgeon at each location.

HYDROGEN DIOXIDE; ITS ANTISEPTIC ACTION.

The article by Dr. John Aulde, in our issue for December 27th, covers so many of the therapeutical applications of this drug that he may be pardoned for overlooking one or two others. For example, the employment of it, in a dilute form, in prostatic disease was briefly referred to by Dr. J. W. S. Gouley in an earlier number, that for November 1st, at page 482. This use should not be overlooked. The drug has also been recommended as a means for the sterilization of milk. Also, Altehöfer has written, in the *Centralblatt für Bakteriologie und Parasitenkunde* for July, that he has found it a valuable disinfectant of drinking-water. One part of the dioxide to 1,000 parts of ordinary potable water, or to water containing sewage, or to that having the typhoid and cholera bacilli, is quite competent to destroy the various saprophytic and pathogenic organisms contained under these conditions, if the drug is added while fresh and kept in good condition, and if it is allowed to act for a period of twenty-four hours. The dioxide is exceptionally applicable to the disinfection of drinking-water, since by its addition, in the proportion named, it affects neither the color nor the taste of the water, and is absolutely innocuous within the animal economy. As to the cost, the author makes an estimate that for five cents per diem ten litres of water may be sterilized—an amount that will suffice for the average small family.

A HYGIENIC MUSEUM FOR THE BENEFIT OF THE INDUSTRIAL CLASSES.

An Industrial Hygienic Museum was recently opened in Vienna, under the auspices of the Austrian Minister of Commerce. The object of the institution is to furnish gratuitous information regarding the best means and appliances for saving the lives of workingmen, for protecting them against so-called accidents, and for diminishing the injurious effects of certain trades. The idea of the undertaking was suggested by the large number of casualties in the Austrian manufactories. During the past six years the factory inspectors have received official notice of 14,236 accidents, inclusive of 1,240 fatal cases. It is hoped that the new museum, in which every known device and apparatus for the protection of the lives and limbs of people working in all the various trades are to be exhibited, will be useful both to the workingman and to his employer.

SUBSTITUTION IN THE CEREBRAL CORTEX.

At a recent meeting of the Zurich Medical Society, Professor Gaule exhibited a dog from which he had extirpated the whole cerebral motor area on each side, as determined by electrical excitation. A report of the remarks is published in the *American Journal of Insanity*. After the operation the dog presented the ordinary loss of voluntary movements. Its re-education was undertaken by the author, who was successful in teaching it to catch pieces of meat thrown to it, to give either paw at command, and to use the paws in digging up buried meat, etc. In the discussion which followed, opinions were divided between the theory of an incomplete extirpation and that of the formation of new cerebral connections. The latter was the view held by the exhibitor.

SEPTIC MIDWIVES.

In the *Lyon médical* mention is made of the way in which negligent midwives are dealt with in Prussia. One such woman, as puerperal fever and death seemed to follow her footsteps, had been under surveillance for some time. She was found to have been guilty of gross neglect of cleanliness, and, notwithstanding the defense by medical friends, the Tribunal of Correction sentenced her to three years in prison, and prohibited her from practicing her profession for a year and a half after her freedom was granted.

THE POST-GRADUATE.

The November number of this journal, which represents the New York Post-graduate Medical School and Hospital, is the first number of the sixth volume. It is noticeable on account of the decided improvement shown in the character of its contents, much of which consists of short and pointed editorial articles. A great portion of the number is devoted to the recent Berlin International Medical Congress. The *Post-graduate* has always been creditable; it is now really attractive.

THE PAUPER INSANE OF QUEENS COUNTY.

It is reported that the order to remove a portion of the lunatics from the Queens County Asylum to the State Hospital at Middletown will be resisted, in the courts, by the officials having charge of the county charities. These officials put forth the plea that the dictates of charity and a regard for the best welfare of their unfortunate wards impel them to fight to the bitter end the carrying out of the new law, and contend that no mercenary considerations can be laid at their door.

ITEMS, ETC.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported during the two weeks ending December 30, 1890:

DISEASES.	Week ending Dec. 23.		Week ending Dec. 30.	
	Cases.	Deaths.	Cases.	Deaths.
Typhus fever	0	0	0	0
Typhoid fever	14	1	13	2
Scarlet fever	104	11	128	10
Cerebro-spinal meningitis	1	0	1	0
Measles	315	15	306	14
Diphtheria	102	43	107	29
Small-pox	0	0	0	0
Varicella	8	0	5	0

The Seney Hospital, Brooklyn.—The Methodist Episcopal Hospital, in its recently printed *Annual Report*, shows a capacity of 70 beds; patients treated during the year, 769; total free days, 17,000; cost, $38,747; deaths, 61; dispensary treatments, 3,614; ambulance calls, 780. The disbursements for salaries, etc., amounted to $11,800, not inclusive of the support of the training school for nurses, which, with the nurses' allowances of $8 and $12 a month, cost $2,560. The receipts from patients were $5,721.

Influenza at New Orleans.—The press dispatches report that influenza is again prevailing at New Orleans, and that nearly 30,000 cases are or have been under treatment. The mortality has been very high, 236 deaths having occurred in a week, which is the highest total in any given week since the yellow-fever epidemic of twelve years ago.

The Rush Medical College, of Chicago.—According to the *Medical News*, Dr. Nicholas Senn has resigned his chair in the college.

Change of Address.—Dr. S. T. Armstrong, to No. 832 Seventh Avenue.

The Death of Dr. Albert F. Holt, Surgeon-General of the State of Massachusetts, took place on Sunday, December 28th, at Martin, Florida. He was fifty-five years old. He was graduated from the Medical Department of the University of Vermont in 1860, and during the War of the Rebellion was a surgeon of volunteers. He was one of the medical examiners of Middlesex County, Mass., and was appointed Surgeon-General in 1884. He was a member of the Massachusetts Medical Society and of several local medical societies.

Army Intelligence.—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from December 14 to December 27, 1890:*

Raymond, Thomas U., First Lieutenant and Assistant Surgeon, having been ordered to temporary duty at Vancouver Barracks, Washington, by the commanding general, Department of the Columbia, is assigned to duty at that post, and relieved from further duty at Fort Sherman, Idaho. S. O. 294, A. G. O., Washington, D. C., December 17, 1890.

Par. 17 of Special Orders No. 287, December 9, 1890, from this office, relative to Taylor, Marcus E., Captain and Assistant Surgeon, is so amended as to direct him to report to the commanding officer, Vancouver Barracks, Washington, for duty as post surgeon, relieving Irwin, Bernard D., Colonel and Surgeon, of that duty.

Ebert, Rudolph G., Captain and Assistant Surgeon, will be relieved from duty at Vancouver Barracks, Washington, upon the arrival of Captain Taylor, and will then proceed to Fort Huachuca, Arizona Territory, and report in person to the commanding officer of that post for duty. S. O. 294, A. G. O., Washington, D. C., December 17, 1890.

Cowdrey, Stevens G., Major and Surgeon. By direction of the Secretary of War, the extension of leave of absence granted in Special Orders No. 263, November 10, 1890, from this office, is further extended ten days on account of sickness. Par. 4, S. O. 293, A. G. O., December 16, 1890.

Ives, Francis J., Captain and Assistant Surgeon, now on leave of absence, will, by direction of the Secretary of War, proceed to Rapid City, South Dakota, and report in person to Colonel Eugene A. Carr, Sixth Cavalry, for duty with troops in the field, relieving Banister, William B., First Lieutenant and Assistant Surgeon, and reporting also by letter to the commanding general, Department of Dakota. Par. 18, S. O. 289, A. G. O., Washington, D. C., December 11, 1890.

Stephenson, William, Captain and Assistant Surgeon, is granted leave of absence for fourteen days, to take effect on or about December 20, 1890. Par. 18, S. O. 291, A. G. O., Washington, D. C., December 13, 1890.

Reed, Walter, Captain and Assistant Surgeon, now on duty at Baltimore, Md., will, by direction of the Secretary of War, report in person, without delay, to the commanding officer, Fort Keogh, Montana, for temporary duty at that station, and by letter to the commanding general, Department of Dakota. S. O. 291, Headquarters of the Army, A. G. O., Washington, December 13, 1890.

Owen, William O., Jr., Captain and Assistant Surgeon, now on leave of absence, will, by direction of the Secretary of War, report in person, without delay, to Colonel Eugene A. Carr, Sixth Cavalry, at Rapid City, South Dakota, for duty with troops in the field, and by letter to the commanding general, Department of Dakota. Par. 17, S. O. 291, A. G. O., Washington, D. C., December 13, 1890.

Smart, Charles, Major and Surgeon, is detailed, by direction of the Secretary of War, as a delegate to represent the medical department of the army at the annual meeting of the American Public Health Association, to be held at Charleston, S. C., December 16 to 19, 1890. He will proceed to Charleston accordingly, and, upon the final adjournment of the association, return to his station in this city. Par. 2, S. O. 290, A. G. O., Washington, D. C., December 12, 1890.

Walker, Freeman V., First Lieutenant and Assistant Surgeon. By direction of the Secretary of War, the leave of absence granted in S. O. 85, Department of the Platte, November 11, 1890, is extended one month. Par. 9, S. O. 298, A. G. O., December 22, 1890.

Cochran, John J., Captain and Assistant Surgeon. By direction of the Secretary of War, leave of absence for six months on surgeon's certificate of disability, with permission to leave the Department of Texas, is granted. Par. 2, S. O. 298, A. G. O., December 22, 1890.

Gibson, Robert J., Captain and Assistant Surgeon, now on leave of absence, will, by direction of the Secretary of War, report in person, without delay, to the commanding officer, Fort Meade, South Dakota, for duty with the Seventeenth Infantry in the field, reporting by letter to the commanding general, Department of Dakota. Par. 6, S. O. 297, A. G. O., Washington, D. C., December 20, 1890.

Naval Intelligence.—*Official List of Changes in the Medical Corps of the United States Navy for the week ending December 20, 1890:*

Evans, Sheldon G., Assistant Surgeon. Ordered to Naval Academy, Annapolis, Md.

Decker, Corbin J., Passed Assistant Surgeon. Detached from Naval Academy, and ordered to Naval Hospital, Philadelphia, Pa.

Marine-Hospital Service.—*Official List of Changes of Stations and Duties of Medical Officers of the United States Marine-Hospital Service for the two weeks ending December 20, 1890:*

Wyman, Walter, Surgeon. Granted leave of absence for twenty days. December 11, 1890. To attend meeting of the American Public Health Association. December 12, 1890.

Long, W. H., Surgeon. Granted leave of absence for seven days. December 20, 1890.

Murray, R. D., Surgeon. Granted leave of absence for thirty days. December 20, 1890.

Irwin, Fairfax, Surgeon. Detailed for special temporary duty at Marine-Hospital Bureau. December 10, 1890.

Carter, H. R., Passed Assistant Surgeon. To attend meeting of the American Public Health Association. December 11, 1890.

Wasdin, Eugene, Passed Assistant Surgeon. To attend meeting of the American Public Health Association. December 11, 1890.

Kinyoun, J. J., Passed Assistant Surgeon. Granted leave of absence for thirty days, with permission to go abroad. December 11, 1890.

Geddings, H. D., Assistant Surgeon. Upon expiration of leave to proceed to New York, N. Y., for temporary duty. December 18, 1890.

Society Meetings for the Coming Week:

Monday, *January 5th:* New York Academy of Sciences (Section in Biology); German Medical Society of the City of New York; Morrisania Medical Society (private); Brooklyn Anatomical and Surgical Society (private); Utica, Medical Library Association; Boston Society for Medical Observation; St. Albans, Vt., Medical Association; Providence, R. I., Medical Association; Hartford, Conn., City Medical Association; Chicago Medical Society.

Tuesday, *January 6th:* New York Obstetrical Society (private); New York Neurological Society; Elmira Academy of Medicine; Buffalo Medical and Surgical Association; Ogdensburgh Medical Association; Medical Societies of the Counties of Broome (quarterly) and Niagara (semi-annual—Lockport), N. Y.; Hudson, N. J. (Jersey City), and Union (quarterly), N. J., County Medical Societies; Chittenden, Vt., County Medical Society; Androscoggin, Me., County Medical Association (annual—Lewiston); Baltimore Academy of Medicine.

Wednesday, *January 7th:* Metropolitan Medical Society (private); Society of the Alumni of Bellevue Hospital; Harlem Medical Association of the City of New York; Medical Microscopical Society of Brooklyn; Medical Society of the County of Richmond (Stapleton); Penobscot, Me., County Medical Society (Bangor); Bridgeport, Conn., Medical Association; Philadelphia County Medical Society.

Thursday, *January 8th:* New York Academy of Medicine (Section in Pædiatrics); Society of Medical Jurisprudence and State Medicine; Brooklyn Pathological Society (annual—election); Medical Societies of the Counties of Cayuga, Fulton (annual—Johnstown), and Rensselaer (annual), N. Y.; South Boston, Mass., Medical Club (private); Pathological Society of Philadelphia.

Friday, *January 9th:* New York Academy of Medicine (Section in Neurology); Yorkville Medical Association (private); German Medical Society of Brooklyn; Medical Society of the Town of Saugerties; Orange Mountain Medical Society (East Orange, N. J.—private).

Saturday, *January 10th:* Obstetrical Society of Boston (private); Worcester, Mass., North District Medical Society.

Answers to Correspondents:

No. 341.—Silk-worm gut answers as well as Kangaroo tendon for buried sutures and for short-cut ligatures, but either is likely to be cast off by ulceration. The trouble is not due to lack of pliability, but to failure of the material to be absorbed.

No. 342.—1. Thiersch's solution is made by dissolving 2 parts of salicylic acid and 12 parts of boric acid in 1,000 parts of hot water. 2. To test for lead in the urine, wet a piece of bibulous paper with the urine and expose it to a jet of hydrogen sulphide; if lead is present, a black coloration will take place. A more elaborate process is to acidulate from 15 to 20 ounces of the urine with nitric acid, evaporate it to dryness, incinerate the residue, dissolve the ash in dilute nitric acid with the aid of heat, dilute the solution with water, filter it, and precipitate with hydrogen sulphide.

No. 343.—We do not know of such an organization as the American Humane Society. If there is one, perhaps some of our readers can give its address. Possibly you mean the Society for the Prevention of Cruelty to Animals, corner of Fourth Avenue and Twenty-second Street, New York.

Letters to the Editor.

DR. GIBIER'S THEORY OF TEMPERAMENTS.

To the Editor of the New York Medical Journal:

SIR: While reading Dr. Gibier's paper upon this subject, I recalled the experience of a phthisical patient with a medical gentleman, and that experience was a unique one and confirmatory of Dr. Gibier's theory. Let me state the case in detail. Six years ago, in early summer, I was asked to go to a tenement-house to see a very sick young woman. The house was on the edge of a swamp, with but few drains to carry off the surplus water. When I entered the room in which the patient lay, I discovered at once that the parents were slovenly, even to the point of filthiness. The floor was dirty, the bed was dirty, the furniture was dirty, and the people were dirty. Through the open windows came a stench which originated in an outhouse whose vault was full and imperfectly covered. The ventilation of the house was very poor, and the air contaminated by the filthy condition of the house from attic to first floor. The people, of course, were poor; hence could not procure for their daughter such delicacies as she needed. Not just the kind of conditions for a person who wishes to make a rapid recovery from such a disease as this poor girl had. Her history was as follows: For several months she had been coughing and expectorating, had had hectic and night-sweats, rapidly increasing emaciation, and loss of strength. The appetite, at first impaired, was finally lost. When I saw her she was in bed and unable to leave it. Her temperature was supranormal, her emaciation extreme, her cough almost constant, and expectoration profuse. Her appetite had left, her diet consisting in large measure of milk. Examination of her chest revealed a cavity at the left apex and consolidation of the remaining pulmonary tissue of that side. On the opposite side many moist râles could be heard. When I left the room, I told her father she could not live three months should the disease make as rapid progress as it had made during the prior three or four months. He told me every physician who had seen and examined her had made the same statement. Shortly after this interview I went to Europe, where I remained about two months, expecting when I returned to hear of the death of this young woman. Imagine my surprise when, after returning, I saw her walking about the streets, plump, rosy, and well.

I went to her home, examined her chest, and found most of the left lung in good condition, and the right lung in prime condition. Her appetite was "enormous," her strength had returned, and her family considered her well. This occurred six years ago, and she is alive and in good condition yet. Naturally, I wanted to know what therapeutic treatment had wrought such a change in such a case as hers, and *in such a home.*

Investigation developed the fact that she had been treated by a man who maintained that one half of a man was acid, one half alkaline, and that when the balance was destroyed some sort of disease was the result. If, therefore, a patient presented himself who was "too acid," he gave him alkalies; if, on the other hand, he was "too alkaline," he gave him acids. Upon this theory he treated the young woman referred to, *and cured her.* This theory advanced by Dr. Gibier deserves careful consideration, because it has a very important and practical bearing. I am inclined to think we do not duly consider the temperament of each patient who consults us, and that, because we do not thus consider it, we fail of securing the best results.

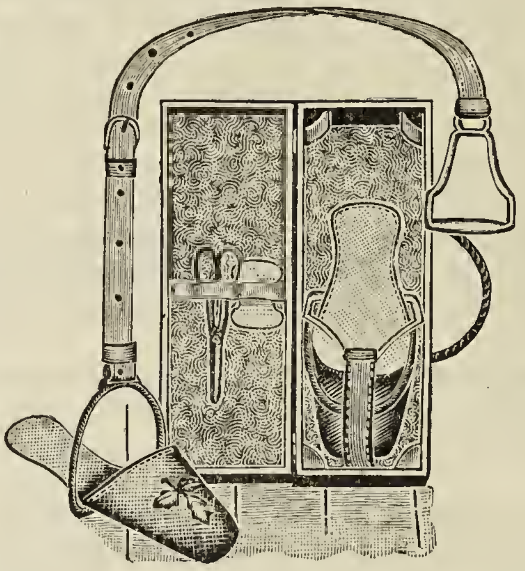
JOSEPH WILLIAM STICKLER, M. D.

THE OBSTETRIC SLIPPER.

344 WEST THIRTY-THIRD STREET, NEW YORK,
November 25, 1890.

To the Editor of the New York Medical Journal:

SIR: I should like to call the attention of the profession to the neat little contrivance here shown, known as "Dr. Kline's Obstetric Slipper," which in my hands has been a great labor-saving device to the nurse and sometimes to the doctor. Any obstetrician will see its use at a glance. It is not only very neat in its get-up, but so very acceptable to the sufferer that the use of the towel, the sheet, or the rope is in most cases at once dispensed with.



DWIGHT L. HUBBARD, M. D.

Proceedings of Societies.

NEW YORK SURGICAL SOCIETY.

Meeting of November 12, 1890.

The President, Dr. CHARLES K. BRIDDON, in the Chair.

Preservation of the Arm after Extensive Laceration.—Dr. L. A. STIMSON presented a patient who, on August 12th of this year, had had his arm caught between cog-wheels. The injury was pretty extensive. The wound was at the junction of the upper and middle thirds of the arm. The median nerve, ulnar nerve, biceps muscle, internal cutaneous nerve, and brachial artery were all divided. The median and ulnar nerves were sutured, the brachial artery was ligated, and the biceps was sutured. The biceps sloughed for an inch on each side of the wound, but the nerves united, and on October 15th the patient was discharged cured.

Compound Dislocation of the Semilunar Bone.—Dr. STIMSON then presented a patient who had, on November 2d of last year, sustained an injury by a heavy roll of paper falling upon his hand and forcibly superextending it. The wound had extended from the styloid process of the ulna transversely across the palmar surface of the wrist. The styloid process of the radius was broken off; the semilunar bone was found projecting through the wound, and was removed. Recovery had been rapid. The movements of the joint were now excellent. There was some slight deformity, the hand deviating to the radial side. Only five other cases of this injury had been reported.

The Secondary Suturing of Granulating Surfaces.—Dr. B. F. CURTIS showed a patient upon whom he had recently done a laparotomy for appendicitis. There had been reasons why the wound should not be closed at the time of the operation, and it was packed with gauze for a week, and the suturing was done a week later. The granulating surfaces were freshened, and primary adhesions were obtained from the suturing. Some slight discharge had taken place from one or two sinuses. He thought that it was an important thing to observe what sort of scar resulted from these cases of secondary suturing. It would be seen that in this instance the scar was a very solid one.

Pyonephrotic Stone-kidney; Nephrectomy; Recovery.—Dr. F. Lange presented Dr. B., a physician, thirty-three years old. The doctor had observed pus in his urine for the last six years. Though since then the urine had never been entirely clear, the quantity of pus had been subject to great changes. As a rule, it became very copious, with periodical attacks of pain and fever, which had lasted from two to five days. The pain was located in the right lumbar region. The urine had been examined frequently, but never had any other abnormal elements except pus been found; there had never been a trace of blood. The patient had presented himself to the speaker about a year ago, when a swelling of the right kidney was made out about the size of a new-born child's head; only its lower portion was accessible to the touch. Absolute milk diet, rest, baths, different spring waters, and internal medications had no decided effect. About once every month such an attack as described, with a copious discharge of pus, would appear. Just six weeks ago probatory nephrotomy was done, and, as the kidney was found to consist of a mass of pus cavities of different size, the organ was removed by the trap-door incision. The last rib was resected, because the kidney had reached high up and was rather fixed by adhesions. Toward the peritoneal side in one spot perforation almost had taken place. Here a stone could be felt. In this case, as well as in one of his previous cases, the speaker had deduced that if it was possible to sever the ureter first, the vascular pedicle could be stretched forward so as to allow of an easy access for ligation. The patient had made an uneventful recovery, with hardly any elevation of temperature. The other kidney seemed to be healthy. Examination of the specimen which was presented showed the kidney tissue almost entirely gone. The largest stone, still *in situ*, was about 1 ctm. long by three quarters to half a ctm. thick; besides this, there were a number of smaller ones, varying in size from that of a pea to that of a small hazel-nut. The possibility of stone was thought of before the operation, but not the probability. The speaker had found that in most of his cases where he had found stone in the kidney no symptoms pathognomonic for stone had occurred. In this case, likewise, only those of pyonephrosis had existed. Never any blood with the urine or characteristic renal colic. It was probably merely accidental if a stone was so situated and had such qualities that it might cause characteristic stone symptoms. In this case part of the stone seemed to be located in pus cavities that had formed at the expense of kidney tissue.

Cancer of the Kidney; Extirpation; Recovery.—Dr. Lange presented a lady of sixty-five years who, within the past twelve months, had had repeated attacks of profuse hæmaturia, associated with sometimes very severe pain in the left lumbar region, where a hard, enlarged, apparently movable kidney could be felt. The patient looked run down, somewhat cachectic. Nephrectomy was done on the 8th of September, the trap-door incision being made. It was found that the tumor occupied the upper two thirds of the kidney, that the suprarenal capsule was cancerous, and that from there a thick, hard, cancerous infiltration extended toward the vertebral column. The operation, therefore, had to remain incomplete, but passed off without serious accident, though one of the larger vessels, running toward the suprarenal capsule, broke under the ligature and caused some bleeding. The wound was treated with iodoform tampon and secondary sutures, and had so far healed, except that the stout ligatures securing the pedicle had not come away yet. To all appearance, the latter must live. It was not entirely free from carcinomatous disease. The tumor microscopically shows very beautifully a characteristic epithelial carcinoma. The patient will probably live longer now, and will be exposed to less suffering, because of the absence of bleeding into the urinary passages and the suffering and disadvantages caused thereby. The significance of the operation was, of course, only palliative. [On December 10th the patient presented herself with metastatic cancer of the vagina.]

Three Cases of Arthrodesis of the Ankle Joint and Chopart's Articulation.—Dr. Lange said that to Professor Albert, of Vienna, belonged the merit of having methodically done arthrodesis in cases where patients had to rely on more or less expensive and disagreeable orthopædic apparatus, those cases being principally cases of infantile paralysis. The operation seemed not to have met with great favor, though, without doubt, offering important advantages. To illustrate this, Dr. Lange presented three patients on whom he had operated two, two years, and seven months before—a young man now of fifteen years, and two female patients of twenty-two and twenty-eight years, respectively. In all these cases paralytic club-foot had existed, in one of the female patients almost entire pes equinus paralyticus. The arthrodesis was done in both ankle joint and Chopart's articulation, and in all three cases the functional result was very satisfactory indeed. The following incision, to make the talocrural articulation accessible, proved very practicable: A flap incision around the external malleolus, with the base of the flap corresponding to the epiphyseal junction; sawing across the external malleolus by means of a point saw, from within the joint close to the periosteum; breaking a thin remaining shell of cortical bone substance, so that the malleolus was turned upward in connection with the flap covering it; in other words, making an osteoplastic resection of the malleolus externus. An incision was made forward over the protruding head of the astragalus, from the anterior reflection of this incision to the line of Chopart's articulation, where it met another incision in the line of said articulation, which gave access to the latter. In this way the somewhat complicated cut formed a horseshoe, and starting from the anterior branch of it a T-incision. The cartilages were removed by a chisel and strong knife, and so much cuneiform-bone substance was taken away from the astragalus and os calcis as to enable the foot to be brought into proper position easily. In one case a plastic elongation of the contracted tendo Achillis was done. Muscles offering resistance had to be severed by additional tenotomy. Nailing the ankle joint seemed to be superfluous, though in one of the cases it had been done, the nail passing through the tibia in an oblique downward direction into the astragalus.

The after-treatment was very simple. Only very few sutures were applied. The limb was immobilized in an antiseptic dressing for the first two weeks or longer. Any corrections deemed necessary were then added, and in the third or fourth week the leg and foot were placed in plaster of Paris. From the sixth or eighth week stepping was allowed, but for several months in an immobilizing dressing only. The silicate dressing for this purpose seemed to be the most convenient. Probably these exercises did a good deal toward making the bony union firm and reliable.

All of the three patients presented were very happy to have got rid of their apparatus, and could walk very well. The lady last operated upon tired somewhat easily yet, but was steadily improving. Her club-foot had been excessive. She walked on the dorsum pedis in an ugly-looking hose-like shoe of strong leather. Dr. Lange had tried by tenotomies and *redressement* to improve her and had achieved a partial result, so that the patient was stepping on the sole of her foot. But she had to wear braces permanently, and entire correction had not been feasible.

Dr. C. McBurney said he had some experience with similar cases and must say he was very much pleased with the results shown by Dr. Lange. He had operated in three or four of the paralytic form of talipes, one of which was a case of talipes equinus calcaneus. He had found no difficulty in performing the operation. The only joint operated upon in his cases had been the ankle joint. It was easy to expose the external malleolus and then chisel through it; then, making a clean section, to remove the malleolus, when the surface of the astragalus was brought into view. The chisel was then driven through the base of the astragalus in the same way. There was no dissection and no drainage by tubes in the wound, this being made entirely with catgut, so placed as to hold apart openings in the skin and allow of drainage into the dressings. He then put the parts up in plaster of Paris and so left them for four or five weeks. Then, after examination, a fresh apparatus was put on. Ankylosis was usually rapid. In every case it had resulted eventually. He thought the operation was of very great value as compared with the use of cumbersome and imperfect apparatus.

Some Cases of Perityphlitis.—This was the title of a paper by Dr. B. F. Curtis. (See page 7.)

Dr. G. M. Edebohls said that he had been in the habit since 1879 of instructing his assistants at St. Francis Hospital as to the importance of what was now known as the "McBurney symptom" in diagnosticating perityphlitic inflammations.

Dr. McBurney said he should like to refer to a point of practice. Dr. Curtis had stated that in one of his operations he had thought it necessary to leave a certain portion of the already gangrenous appendix behind and to allow it to slough away in the dressings. He did not see why that line of practice should be followed. The application of a ligature to the appendix could not increase the slough if applied at any point in the continuity of the appendix. Even if the ligature did not go behind the sloughing point the removal of a large portion of the slough was a desirable feature. To leave the appendix in, where its removal would necessitate a great deal of handling of the parts, was excellent practice. He thought he had lost a case by trying to take out an appendix that was difficult to dislodge. However, where it was gangrenous and on the point of sloughing, it should be removed.

As to the name for the disease, he was rather sorry to hear the term perityphlitis brought before them again. It did not convey any idea of the disease. Any term, even if poor Greek or Latin, was better, if it gave some idea of the complaint, than one which gave no suggestion at all. The term perityphlitis no more described what was now known as appendicitis than pelvic peritonitis would the condition of salpingitis.

Dr. Stimson said he had been struck with several points of interest in the paper of the evening. Among these were the mode of death, the persistent vomiting, and the rise in temperature late in the course of the affection, just before death. The author had referred the vomiting to intestinal obstruction, and the intestinal obstruction to adhesions, these adhesions interfering with the movements of the intestines and thus favoring sepsis. The speaker thought that it was not the vomiting or the obstruction, which were quite mechanical, but the arrest of the passage of the intestinal contents which was followed by symptoms, one of which was elevation of temperature before death. He found this to obtain in hernia after reduction and in traumatism of the intestinal canal. If a method could be found of compelling the movement of the intestinal contents he thought that a great many of these cases could be saved. A case had been reported in the French journals in which the condition had been treated by the galvanic current, one electrode being placed in the rectum and the other on the abdomen. This had been followed by a copious movement and by the recovery of the patient.

Dr. Lange said that in one case of gangrene of the appendix which had ended fatally, and in which no operation had been done, one symptom had been a very sharp pain in the penis. This had been the principal source of suffering to the patient. As to the circumscribed pain in appendicitis, he thought that this only referred to those cases where the disease was very limited. The more extensive the disease, the more the pain would spread over the region. When the peritonitis was more diffused, then the pain was likely to be experienced at the umbilicus or about the center of the abdomen.

The President said he believed that what was understood as "McBurney's symptom" referred to the tenderness over a certain area and not to the pain.

Dr. McBurney said that this interpretation was the correct one.

Dr. Lange said that his remarks would apply equally to the tenderness. It existed where inflammation was located. If the appendix was reflected behind the caput coli, it was located along the ascending colon.

The President said there was one point which had been referred to by Dr. Curtis—that of constipation and obstruction of the bowels. He had remarked this as occurring at different periods after operations. In one case the condition had been brought about by bands or inflammatory products ten or twelve days after the patient had been operated upon. In this case the patient was placed in an inverted position under narcosis. Frequently there was no inflammation, but a generally sticky condition of the intestinal coats. There was much dilatation with angular kinks produced by the distention. He believed that more benefit was derived from siphoning out the stomach than from any other line of treatment.

Dr. Curtis said he had used the term perityphlitis because he had desired to stir up some feeling which might lead to the adoption of a classically correct term. He should have considered it absolutely dangerous to interfere further in the case to which Dr. McBurney had alluded. He had meant to convey the same idea as Dr. Stimson had indicated in his remarks upon the effects of the intestinal obstruction in these cases.

Carcinoma of the Bladder.—Dr. L. B. Bangs exhibited a specimen of this condition, recently removed. The patient had been brought to him three days before with a history of hæmaturia having existed for some eighteen months, with great dysuria and emaciation. No diagnosis had been made. The speaker had sent the man to the hospital, and on the second day after his arrival there had explored him under ether, and, by the aid of the cystoscope, had been able to make out the existence of an irregular tumor situated on the right and front of the bladder. The diagnosis had been that of malignant growth. Forty-eight hours after the examination the man had died. The autopsy had verified the diagnosis. It would be noticed that the ureters were dilated and that there was a secondary growth in one of the kidneys. The peculiarity about this latter growth was that, instead of being carcinomatous in character, like the one in the bladder, it was histologically a lipoma.

A Danger in the Paquelin Cautery.—Dr. J. A. Wyeth said that while operating that day in a case very similar to the one just described by Dr. Bangs, he had had an unfortunate experience. He had been removing a tumor from the bladder by suprapubic cystotomy, and had asked an assistant to hand him the Paquelin cautery, which was already prepared. Just as it was held over the surface to which it was to be applied it began to explode. The flame had run up, and clear into the bottle of benzine. For a moment he thought they were going to have serious trouble. He had related this incident to a group of surgeons, and had learned that the same thing had occurred at the Skin and Cancer Hospital quite recently. The accident resulted from failure to put in the sponge which prevented access of the fluid to the incandescent metal.

Two Pins in a Hernial Sac.—Dr. McBurney said that about two weeks ago he had operated upon a child of three years of age for the radical cure of an inguinal hernia. He had found the sac readily. It was not congenital. The cord was difficult to find. There was also some trouble in getting into the sac; it could not be done with the ordinary freedom, and he had to open it very near the upper end. He had found no omentum in the sac, as he had expected, but a piece of small intestine, or what he at first assumed to be such, until he noticed that there was no return piece, and then he had appreciated that it was an appendix. The mesentery was well developed. The length of the appendix was exceptional as well as its diameter. He had removed the organ and had then discovered that there was a mass of about an inch in diameter at the bottom of the sac. He had about decided that it was probably a mass of granulation tissue when he had pricked his fingers upon two black things at the end of it. These proved to be two black pins. They had evidently been swallowed with their heads downward, and had ulcerated through the appendix and had given no further trouble beyond causing pain in the tumor.

Detachment of the Semilunar Cartilage.—Dr. Stimson presented a specimen of a semilunar cartilage recently removed for the relief of trouble in the knee joint. The patient from whom it had been taken was a young man of twenty-four, who had come to the New York Hospital on the 7th of October. He had complained of great disability in the left knee. There was some history of an injury to the leg, followed by recurrent attacks of inflammatory swellings and temporary fixation of the joint. The speaker had operated on the 9th of this month, twenty-four hours after the patient had been seized with an attack which had come on in bed from twisting his knee. The speaker had opened the joint and had found the internal semilunar cartilage almost completely detached. The piece presented was removed. The wound had healed by primary union. [December 15th.—Recovery is now complete, with free use of the joint.]

NEW YORK ACADEMY OF MEDICINE.

Meeting of December 4, 1890.

The President, Dr. A. L. Loomis, in the Chair.

Nomination of Officers.—The first portion of the evening's work was devoted to the nomination of officers for the ensuing year. Dr. A. L. Loomis stands without opposition for re-election as president. The candidates for vice-president nominated are Dr. V. P. Gibney and Dr. E. L. Keyes.

Life-saving Methods in Still-births.—This was the title of a paper by Dr. W. T. Lusk. He introduced his remarks by an illustrative case. He had been called in consultation to the case of a young primipara in advanced labor. He had found upon examination that the child's head was low in the pelvis and that the cervix was very nearly dilated, and that, while the pains seemed good, there had been for two hours no progress of the presenting part. The extraction of the head by means of the forceps was easily accomplished, but after its birth it was found that the advance of the shoulders was arrested by the cord, which was short and wound tightly around the neck. The cord was therefore divided with scissors, and the child rapidly extracted. It had reached the pallid stage of asphyxia. All respiratory action was suspended, and the heart pulsations had apparently ceased. The child was placed upon the table wrapped in warm cloths. The mucus was expelled from the posterior fauces and from the nasal passages by mouth insufflation. A No. 8 English gum catheter was then passed into the trachea and the aspirated mucus removed by suction. The quantity of mucus in the bronchial tubes was large and the catheter had to be introduced several times. After clearing the trachea and bronchial tubes direct insufflation was practiced. In ten minutes slight heart movements were observed, but these ceased when insufflation was suspended. A little later the child gasped; this seemed to be in response to the catheter when introduced into the trachea. An hour's perseverance in this plan of treatment was rewarded by the appearance of a little color upon the surface of the child. It was then immersed in warm water, and, when lifted from the bath, a stream of spirits was passed from a height upon the epigastrium. No respiratory movements were excited. Schultze's swinging movements were then resorted to, and were followed by Sylvester's method, but in employing the latter it was found necessary to draw the tongue forward and to depress the head to secure a passage for the entrance of air into the lungs. It took three hours of this kind of work to finally establish respiratory movements.

It was of course well known that during the period of gestation the child remained in a state of apnœa, and that the respiratory functions necessary to its normal development were performed by the placenta. So soon, however, as the child was born, the thorax expanded, the diaphragm contracted, and pulmonary respiration was established. The reason of the first respiratory movement in the child, whether prior or subsequent to its birth, had long been a subject for speculation. As a contribution to the question in dispute, Otto Engstrom had recently reported a series of experiments upon gravid rabbits and guinea-pigs. From these experiments it had become evident that when the placental respiration was suspended the accumulation of unknown materials in the blood was capable of exciting the respiratory center in the medulla oblongata of the fœtus without the aid of peripheral stimuli, but that the latter were capable of exciting a respiratory act before the internal stimuli had increased sufficiently to induce independent action. Again, that in a moderate degree of asphyxia in the new-born, after the irritability of the medulla had been lowered to a point at which no response followed, from the venous condition of the blood, external stimuli were still capable of exciting respiratory movements. Engstrom had found, too, that when the fœtus had breathed in the amniotic sac, after respiration had ceased, and after the blood in the umbilical vein and arteries had become of the same blue color, and the nose and lips had become cyanotic, it was still possible to excite respiration in some cases by opening the amnion and lifting the head so as to expose it to the air, and in others by pinching the nostrils, the ears, and the mouth. After going carefully over the points in the fœtal circulation the speaker went on to say that in the asphyxia of new-born infants the suspended animation was, with rare exceptions, preceded by intra-uterine respirations. The causes of the latter were to be found in tetanic contractions of the uterus and the consequent diminished blood supply to the placenta, in premature detachment of the placenta, in compression of the cord, and in the sudden death of the mother. Of these, compression of the cord was by far the most common. The first effect of the compression was to arrest the circulation in the umbilical arteries. The pressure in the aorta was thereby augmented and increased work was thrown upon the left ventricle of the heart. Except in cases where the mouth and nasal passages were closed by pressure, with the expansion of the chest due to the irritation of the medulla by the increased venosity of the blood, amniotic fluid, meconium, and mucus were aspirated into the air passages.

When the compression was temporary the circulation might be restored, and the apnœa might again return, but in cases where the respiration continued, the capillaries of the lungs filled from the pulmonary artery, the intrathoracic venous congestion was increased, and the heart action was lowered. As the irritability of the medulla sank, the respirations failed, the cavities of the heart filled with venous blood, the lungs became congested, and in some instances subpulmonary ecchymoses resulted from overdistention of the pulmonary vessels. Outside the thoracic cavity the venous trunks were often distended with blood. This secondary venous stasis was most marked in the vessels of the neck, head, and brain. After the birth of the child the prognosis was dependent upon the degree of asphyxia. The indications for treatment were, in all cases, to clear out the air passages, to restore the irritability of the medulla, to increase the force of the heart contractions, and to relieve the plethora of the heart and the blood channels of the thorax. In cases where the muscular tonus was preserved these indications were easily fulfilled. Aspirated fluids and mucus should be cleared from the fauces with the finger. If the nasal passages were obstructed, mouth-to-mouth insufflation should be employed. The child should be made to cry by flagellations, and the respiratory movements should be thoroughly stimulated by alternately immersing the child in hot and cold water. So far the procedure was a familiar one, but in a good number of cases in a few days the skin became dusky, the heart action feeble, and it became evident that the child had been temporarily restored to life, only in the end to die of atelectasis. As a means of guarding against this fatal issue, due in part to imperfect expansion of the lungs, in part to lobular congestion, there was no method which rivaled that of Schultze. By this method not only was good ventilation of the lungs secured, but the forcible expiration expelled the materials aspirated from the bronchial tubes. A still more important action, according to Schultze, was the relief of the overloaded vessels. In cases of deep asphyxia in which muscular tonicity was lost, and the heart movements were scarcely perceptible, the methods at first employed should involve the minimum degree of disturbance of the child. The speaker then illustrated, by means of a still-born cadaver, the various steps in the processes of Schultze and Sylvester for the revival of the still-born. He urged that the efforts should be persistent as long as there was the faintest prospect of success.

Dr. W. M. Polk said that this was a subject in which they must all feel much interest. He thought that the distinction was not made with sufficient clearness between the different forms of asphyxia which called for different modes of treatment, and for this reason a great many lives were lost. In cases of asphyxia of what might be called the second degree the speaker said it was his custom to immediately make use of the catheter, feeling that these cases represented a class in which the asphyxia was the result of intra-uterine or intra-vaginal breathing and that the infants were practically drowned, excluding, of course, the class which breathed badly, cases of compression of the brain, and so forth. But, no matter whether the case belonged to one or the other class, the use of the catheter seemed to meet the indications sufficiently well, and it was rarely necessary to resort to the method of Schultze to insure the complete action of the circulation. The cases of suffocation in the first degree usually presented very little difficulty and generally came out all right, but where the condition had passed into the second degree he would urge the use of the catheter, followed by the manipulations according to the method of Schultze.

Dr. H. J. Garrigues said that the most brilliant results would sometimes follow persevering effort in saving these children, and this in the face of the most hopeless conditions. It was not infrequently a matter of the greatest importance that the life of the child should be made a demonstrable fact, as upon that often hung questions of inheritance and other points involving property rights.

The legal view as to what constituted life at birth differed in various countries. In France respiration must have been fully performed. In England any sign of life was taken as proof entitling to inheritance, such as pulsation of the heart or cord, winking of the eyelid, and any response to stimuli, except that of electricity. Among the methods which had been recommended for the establishment of respiration was that of blowing directly into the child's mouth; this the speaker did not approve of, believing that the air did not find its way into the child's lungs, but merely into its stomach. Electricity was a useful agent in these cases, but not as it had been advocated for application to the phrenic nerve. By its use in this way at the neck, the pneumogastric was likely to be involved in the action and the heart thereby arrested. He thought that electricity might be of great value as a cutaneous irritant.

Dr. R. A. Murray thought it a good plan to relieve the congested condition of the child in those cases where the fœtus was born blue, by allowing some blood to escape from the cord. In this way normal circulation would be more easily established. He thought that, in making insufflations of an infant's lungs, one was too apt to forget how small these were and to overdistend them and the thorax, and so cause undue pressure upon the heart. In practicing the method of Sylvester it was often done too violently; the number of movements made to the minute was far too great, and the children were by this exaggeration often killed. He believed that, besides the external stimuli, there should be included that by the rectum. This region was the last to lose its reflex action under the administration of anæsthetics, and the first to show signs of its return. By injecting a carefully computed quantity of brandy into the child's rectum, a far better effect could be got than by pouring spirits upon the abdomen. He believed that the practice of suddenly transferring these children from hot to cold water was not infrequently the cause of their death.

Dr. W. A. Forrest described his method of keeping up the respiratory movements of the child's lungs while it was kept sitting in a warm bath. In the first place, the child lost none of its very necessary vital heat during the manipulations, and by so adjusting the hand of the operator at the back of the child's neck that support was given and the movements of the thorax could be controlled, the head might be thrown back, and this would so crowd the cervical vertebræ against the œsophagus as to effectually close it; at the same time it would leave the larynx and trachea patent to the admission of air. The physician could then lean over the child and practice mouth-to-mouth insufflation, and, as the speaker had proved by careful experiment, the air would really enter the lungs and not the stomach. The other remaining movements were performed by alternately bending the child over and raising its arms.

Dr. A. Jacobi thought that it was an imperative duty of the physician to do everything in his power to re-establish perfect functional activity in these cases. He believed that at such times hæmorrhages of the brain were only too likely to occur, and that these were more to be deplored than the death of the child at the time, for they were undoubtedly followed by a series of untoward results. Among these might be meningitis, encephalitis, epilepsy, and idiocy. He had seen many cases of epilepsy which undoubtedly had for their origin a more or less protracted condition of asphyxia at birth. Many cases of idiocy would be found occurring in the first child after a long labor. Therefore not only was an asphyxia cut short, a life saved, but the restoration of the cerebral function, and every physician should be familiar with the surest and best means of doing this.

Dr. J. H. Dew described his method of dealing with these cases, which, he said, was a modification of that of Schultze. The child was so held by the neck and lower extremities as to enable the operator to make alternate motions, at one time fully extending it and the next crowding the lower extremities upon the trunk.

Dr. E. L. Keyes then presented a check for a thousand dollars, which he had been requested to hand in on behalf of an anonymous donor, the money to go to the library fund.

SECTION IN ORTHOPÆDIC SURGERY.

Meeting of November 21, 1890.

V. P. Gibney, M. D., Chairman.

Dr. Beely's Apparatus for Measuring the Thorax.—Dr. N. M. Shaffer exhibited one of these instruments, which had been presented to him, while he was in Berlin, by the inventor, Dr. Beely. A somewhat similar apparatus had been called by Dr. Nebel a cyrtograph. The apparatus consisted of a series of narrow parallel steel bars, placed closely together and sliding in a rectangular metal frame. Each bar terminated in a blunt point, near the end of which, on the lower surface, was a metallic point or stylus. This arrangement of bars looked not unlike a huge comb. On bringing the pointed ends against the chest, or any similar object having an irregular outline, the bars adjusted themselves in the frame, so that the pointed ends formed an outline identical with that of the object against which they were placed. A simple cam movement then clamped them in this position. The instrument was next laid upon a piece of paper resting on a sheet of felt, and the points on the lower surfaces of the bars were made to puncture the paper by passing a small roller over all the bars successively. In this way the desired outline was recorded on paper as a series of small punctures, about one fifth of an inch apart. When taking a tracing from a patient while standing, an erect posture was secured by means of a plumb-line fastened to a belt, which was buckled around the body. In order to secure still greater accuracy, the instrument was provided with a spirit-level. The exact level at which this transverse tracing of the chest was taken might be marked with nitrate of silver, so that tracings taken at different times might be compared readily. With the patient in the prone posture the instrument could be used, but a longitudinal tracing, as of the spinal column, with the patient erect, was not within the contemplated scope of the instrument. The speaker said that he had made several tracings with this instrument, and had been very favorably impressed with its action and accuracy.

Dr. John Ridlon said that he had seen Dr. Beely using it with the patient in the prone posture, and that he had understood that its action was satisfactory only when it was employed in this way. At the Berlin Congress Dr. Nebel had exhibited a much cheaper but less accurately made instrument, constructed on the same principle. A series of round rods were placed parallel to each other and made to slide through a large round bar. The small bars terminated in buttons, which were applied to the chest. The outline was then transferred to paper by laying the machine on the paper and passing a pencil along the buttons.

Dr. A. B. Judson admired the mechanical features of the instrument, but thought that such tracings of cases of lateral curvature were of but little value in view of the fact that the changes in contour occurred from day to day as a result of differences in the general tone of the patient.

A Case of Supposed Evacuation of a Psoas or Lumbar Abscess through the Vagina.—Dr. Samuel Ketch presented such a case. A child, five years and three quarters of age, of healthy parentage and having a good family history, was admitted to the hospital on October 22, 1890, with the history of a fall six or eight weeks prior to her admission. Two weeks before she was presented for examination she was first noticed to walk peculiarly, and she complained of "pain in her feet." She was thought to be suffering from hip-joint disease by her attending physician. At the time of the examination her general condition was fair and there was no pain, and the motions at the hip joint were normal with the exception of a slight limitation of extension on the right side when the patient was in the prone posture. Close examination revealed a small kyphosis in the lower lumbar region; the right hip was prominent and relatively larger, and there was a feeling of fluctuation on that side. There was a discharge of pus from the vagina. The case was of interest both on account of the unusual mode of evacuation of the pus and because of the symptoms which had led to the diagnosis of hip-joint disease.

Dr. Shaffer had seen the case just reported. He had met with cases where the abscesses of Pott's disease opened into the rectum, vagina, and bladder; and in one case of disease in the dorso-lumbar region, which had extended over a period of about twenty years, pus had been discharged from the bladder at intervals of a few months, accompanied by the usual symptoms of acute abscess formation. The cases in which the abscess had opened in these unusual situations had all done well, and he attributed this to the valvular opening through which the pus was discharged. In one of his cases an abscess was found pointing into the rectum, and was purposely evacuated at this point by means of a trocar. The result had been extremely satisfactory. A similarly favorable prognosis could not be given where abscesses ruptured into the lungs. He had seen several of these cases, and in one, now under observation, which he considered unique, a boy with mid-dorsal disease had suffered at intervals from fever, accompanied by the expectoration of pieces of the cancellous portion of bone.

Dr. R. H. Sayre said that anatomical considerations would lead one to expect that, owing to better drainage, abscesses opening into the alimentary canal would pursue a more favorable course than those which ruptured into the lung. He recalled a case where an abscess, situated on each side of the vertebræ, suddenly enlarged, and caused fatal asphyxia. The autopsy showed that "a saddle-bag" abscess was situated at the bifurcation of the trachea.

Dr. J. K. Young, of Philadelphia, said that he had recently seen a case of lumbar Pott's disease in which the abscess had been evacuated through the vagina, and also through the abdominal walls. It had pursued a favorable course.

Dr. Thomas H. Manley had once treated a case of abscess in the mid-dorsal region, where evacuation had occurred through the umbilicus. The patient had made a good recovery.

Dr. Agramonte suggested that the exact condition present in Dr. Ketch's case could not be affirmed until the vaginal discharge had been examined for gonococci.

The Chairman thought that such an examination was highly important, and suggested that search should also be made for the opening through which the pus was discharged.

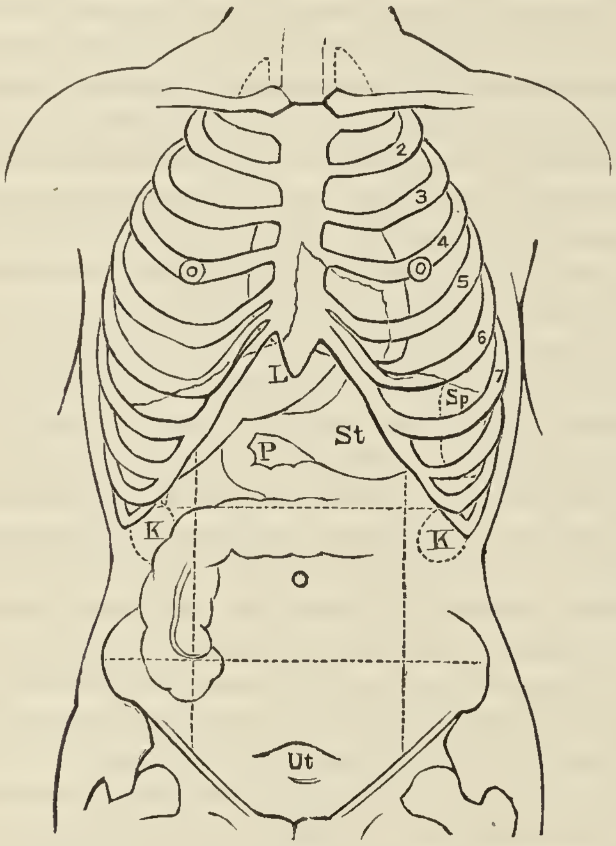
Dr. Ketch said that he was aware that the report of the case was somewhat premature, and it had only been presented at the request of the chairman. He had not been able as yet to make the examinations suggested, but the rational symptoms and the clinical history of the case seemed to warrant the position which he had taken. In an experience of thirteen years at the Orthopædic Dispensary he had never before met with such a case, and had only seen one case in private practice, and in this one Dr. L. A. Sayre had verified the condition. In this case there had been a favorable termination.

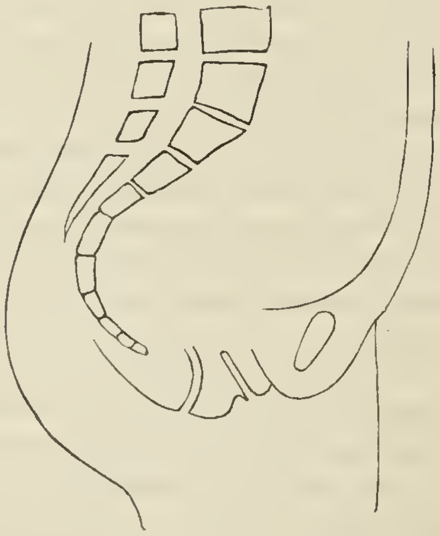
New Inventions, etc.

RUBBER STAMPS AND ACCURATE RECORDS.*

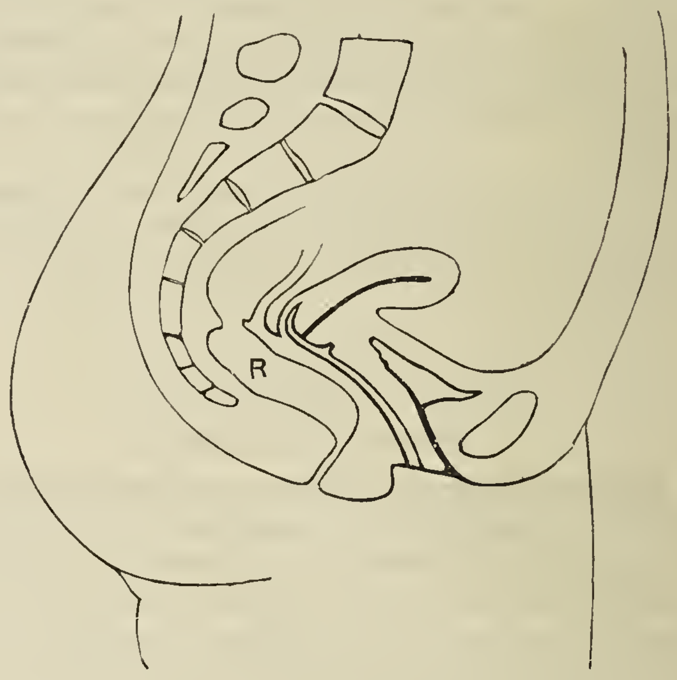
By Robert L. Dickinson, M. D.,
LECTURER ON OBSTETRICS AND ASSISTANT OBSTETRICIAN TO THE LONG ISLAND COLLEGE HOSPITAL.

A labor-saving device attracts every busy man; a graphic form of record appeals to every scientific man; therefore rubber stamps for rapid and accurate entry of the histories of patients must interest all progressive medical men.

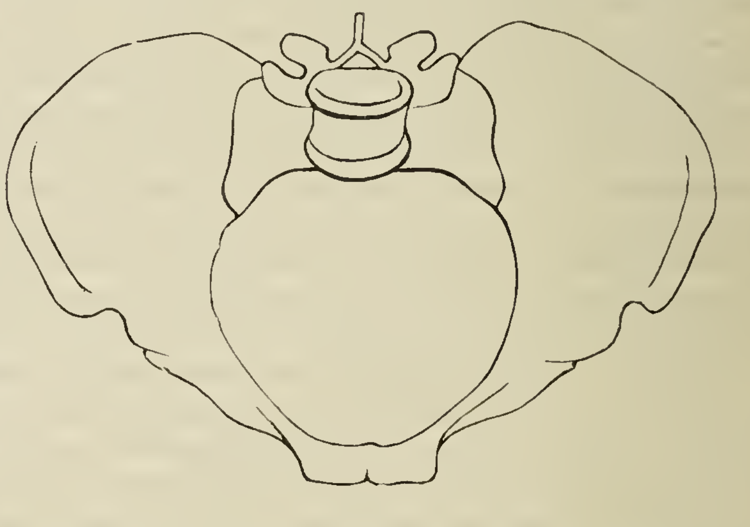


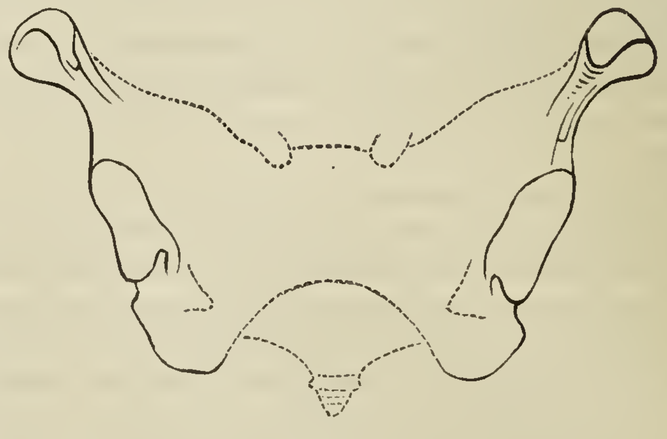


The German stamps presented by Schultze at the last congress are too large to print flat on the rolling pages of our case-books. I present the largest practicable size, which prints clearly without skill or annoyance. By using a colored ink, a pencil sketch can be made over the normal outline and a displacement or tumor clearly shown. The progress of the case is entered in the same satisfactory way, and one unaccustomed to drawing is easily able to represent abnormities. To obtain a good impression, the stamp is held on the page with one hand, and the handle lightly and sharply struck with the palm of the other hand.



Care was taken in preparing these outlines. In the front view, for example, the thorax is from Sappey's great work; the heart and lungs are from the highest authority (Sibson, in Reynolds's *System of Medicine*); the liver is from Murchison; the pelvis is from Stratz; and the whole has been compared with Gray, Quain, Luschka, Hart and Barbour, and other authorities.





These stamps are made by J. C. Barton & Co., 318 Broadway, New York, and are sold at $5 for a set of three, or from $1.50 to $2 apiece.

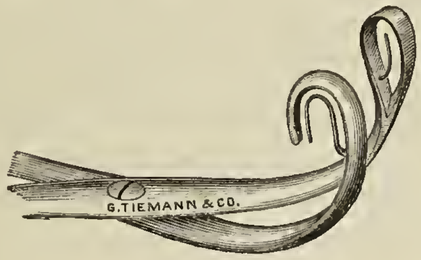
---

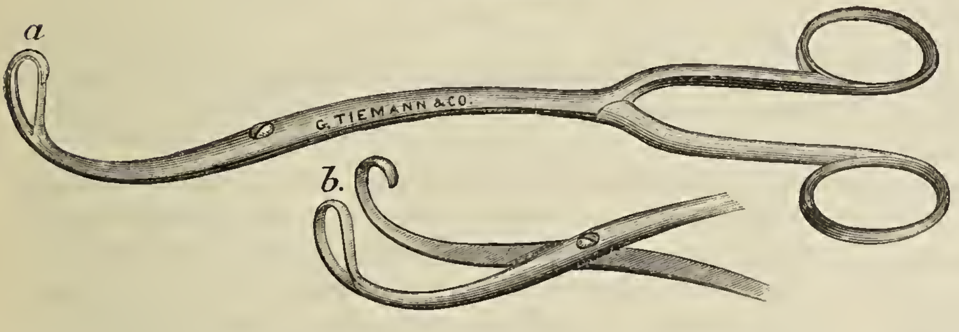
* Presented at the Brooklyn Gynæcological Society, October, 1890.

RAYNOR'S NASO-PHARYNGEAL SCISSORS WITH SAFETY-BARS.

By J. H. Bryan, M. D.,
WASHINGTON, D. C.

I desire to call attention to the naso-pharyngeal scissors recently devised by Dr. F. C. Raynor, of Brooklyn, for the removal of hypertrophied lymphoid in the vault of the pharynx, and to make known a slight improvement that has been made in this instrument. For a full description of the scissors I have referred those interested to the account given in the *New York Medical Journal*, August 30, 1890.





Owing to the large fenestra in the male blade, *b*, the excised portion almost invariably falls out of the grasp of the instrument, much to the annoyance of the operator; and when operating on a patient in the sitting posture there is great danger of the mass falling into the larynx. To overcome this defect, Tiemann & Co. have added two small bars, one to each blade, which hold the excised portion firmly within the grasp of the instrument so that it can be easily removed from the post-nasal space before operating again. This slight addition to the instrument will be readily appreciated by referring to the accompanying woodcuts.

806 Seventeenth Street.

Miscellany.

Notes in Medical Jurisprudence.—Henry A. Riley, Esq., sends us the following:

A review of the legislation of the past year in the various States on the general subject of the public morals shows that a number of important laws have been added to the statute book. Among them may be mentioned the passage of laws by Washington and Wyoming imposing severe penalties upon all persons in any way aiding or assisting at prize fights. Georgia has declared cock-fighting and betting on the result a misdemeanor.

Maryland has prohibited by statute book-making, pool-selling, and gambling on races, cock-fights, etc. The same State declares it to be a misdemeanor for any person to willfully instigate, engage in, or in any manner further, any act of cruelty to any animal, thereby unjustifiably causing physical pain, suffering, or death. This law does not expressly forbid vivisection, but it seems broad enough to include operations of that kind.

Michigan prohibits the posting in any public place of any picture or representation of murder, fighting, or personal violence, or commission of any crime, or any representation of the human figure which would be indecent if a living person so appeared on a public street.

New Jersey forbids the exposing to public view of the body of an executed criminal and any public funeral or gathering in connection with the burial thereof, but relatives within the second degree or attending clergymen may attend such funeral.

A recent Georgia case contains some directions to juries on the subject of estimating the cash value of lives. The action was brought by a wife to recover damages from a railway company for the killing of her husband, and the witnesses were allowed to testify as to the probable amount the deceased could have earned in various employments, although he had never been anything but a farmer. One witness stated that he supposed the deceased "could have made five hundred or six hundred dollars a year teaching school in a country school; as a mechanic he could have made five hundred or six hundred dollars a year; as a farmer he would be worth four hundred or five hundred dollars a year directing his own business, and that he could have got the same salary as teachers at West Point, and they commanded salaries of from seven hundred to one thousand dollars a year." Another witness testified that if the deceased had directed his attention to "teaching school, making money, merchandising, keeping books, or anything of that sort, or any sort of railroad work he was capable of doing, he could have made six hundred dollars." The Court held that all such testimony was inadmissible, and that only that could be allowed which bore upon the special vocation which he had chosen for himself. "The measure of damages in an action by the wife for the homicide of her husband depends solely on the value of the husband's life. In estimating such value by age, habits, health, occupation, expectation of life, ability to labor and to furnish care and attention to the family, probable increase or diminution of that ability with the lapse of time, rate of wages, etc., the necessary personal expenses of the husband should be deducted, and the balance reduced to its present value would be the value of the life."

In a recent case, involving the meaning of delirium tremens as found in an insurance policy, the Court quoted *Webster*, *Worcester*, the *Century Dictionary*, *Stormonth*, and then gave its own definition. *Webster's* definition is: "A violent delirium induced by the excessive and prolonged use of intoxicating liquors." *Worcester* says: "A disease of the brain characterized by frightful dreams and visions, and resulting from the excessive and protracted use of spirituous liquors." *Stormonth* styles it: "A temporary insanity or madness, accompanied with a tremulous condition of the body or limbs, generally caused by habitual drunkenness." The latest authority, the *Century Dictionary*, defines it as follows: "A disorder of the brain arising from inordinate and protracted use of ardent spirits, and therefore almost peculiar to drunkards. The delirium is a constant symptom, but the tremor is not always conspicuously present. It is properly a disease of the nervous system." The Court instructed the jury that delirium tremens was "that diseased condition of the brain said to be produced by the excessive and prolonged use of spirituous liquors." This definition was approved by the appellate court, which said that certainly the insurance company was not prejudiced by it.

In Pennsylvania a short time since a breach-of-promise case was tried where one of the principal defenses was that the plaintiff had informed some of her friends that she had a tumor. On the trial the judge refused to allow the defendant to cross-examine the plaintiff on this point, but on appeal this refusal was held to be an error. The Court said the defendant had a right to ask her as to her physical condition at the time the contract was entered into, and if it appeared from her own statement that she knew she was diseased or in any way physically disqualified from entering into the marriage state, and that she concealed this fact from the defendant, it would have been a fraud upon the defendant, which would prevent her recovering any except possibly nominal damages.

In a late case in Pennsylvania, the city of Philadelphia has been held liable for damages resulting from the poor plumbing in one of the public schools. As a consequence of the defects in the pipes, water and filth were deposited in the neighboring cellars, and the Court decided that the city was responsible and must pay.

Plumbers are now obliged to secure a certificate of good character before they can practice their profession in Baltimore. Some of the guild considered the statute on the subject derogatory to them, and appealed to the courts to declare it unconstitutional, but without avail. The Court held that "no one is allowed to practice law or medicine or engage in the business of a druggist unless he shall have been found competent, and qualified in the mode and in the manner prescribed by the statute; and although the business and trade of a plumber may not require the same training and experience as some other pursuits in life, yet a certain degree of training is absolutely necessary to qualify one as a competent and skillful workman. We all know that in a large city like Baltimore, with its extensive system of drainage and sewerage, the public health largely depends upon the proper and efficient manner in which plumbing work is executed, and, this being so, the Legislature not only has the power, but it is eminently wise and proper that it should provide some mode by which the qualifications of persons engaged in that business shall be determined."

Not long since, the Governor of South Carolina granted a pardon to a convict on the condition that he leave the State within forty-eight hours, never to return. The Constitution of the State permits the Governor to grant pardons "in such manner, on such terms as he shall think proper." It was contended that this came under the rule that where a pardon was granted upon an illegal, immoral, or impossible condition, the pardon became an absolute one, as the condition was void. It was maintained that the condition in this case was illegal, inasmuch as there was no such punishment known to the South Carolina laws as banishment or transportation for life, and that the criminal must be allowed to go free. The Court held that this reasoning was not convincing, as, in the absence of any law on the subject, the condition was not an improper one and was of advantage to the State.

In a late case in this State a physician gave a receipt "in full for medical services" to the mother of a patient, who was understood to be acting for the patient. A subsequent action was brought against the patient for services, and expert evidence was introduced to show that these services were worth more than the amount agreed to be received in full. The Court said that the physician was bound by his receipt and could not recover a further sum.

The Medical and Surgical College of New Jersey.—The following preambles and resolution relative to this institution were adopted by the District Medical Society for the County of Hudson, on December 16th:

Whereas, A certain medical institute, called the "Medical and Surgical College of the State of New Jersey," chartered by special act of this State, approved March 17, 1870, was organized during the year 1888, and opened in three small rooms on the top floor of the general office building, No. 47 Montgomery Street, Jersey City; and

Whereas, Said alleged college has graduated several students whose diplomas have been presented to the Hudson County Board of Health, and who have been refused registration; and

Whereas, It has appeared to this society, by good and sufficient evidence, that several members of the faculty, nearly all of whom are non-residents of this State, are either incompetent to deliver lectures on the topics assigned them, or are graduates of disreputable or fraudulent medical colleges; that the facilities for instruction in said alleged college are totally inadequate, and that no clinics, dissections, or hospital practice have been or can be given; that the provisions of the charter of said college have not been observed by the authorities thereof; that the requirements of said charter, even if the same were strictly followed, are far below the standard of minimum requirements of medical colleges adopted and demanded by all medical authorities at the present time, and that, therefore, the possession of a diploma from said alleged college is no proof whatever that the holder thereof has received a good and sufficient medical education; and

Whereas, The State Board of Medical Examiners of this State will introduce a bill at the next meeting of the Legislature for the purpose of repealing said charter:

Be it Resolved, That the District Medical Society for the County of Hudson does hereby earnestly protest against the existence of said alleged college as an unnecessary, inadequate, and disreputable institution, tending to degrade and lower the standard of the medical profession; that the influence of this society and of the individual members thereof be given to the support and passage of the bill to repeal said charter, and that a copy of this resolution be forwarded to the several medical societies of this State, with requests for their support and influence for the passage of said bill.

The Koch "Lymph" and "Inoculation."—The daily press and some medical papers continue to abound in articles on Koch's so-called "lymph," a word which, considering that the composition of the fluid is not known, is, to say the least, premature. From another point of view it would be unfortunate that this word "lymph" should be permanently fastened upon Koch's fluid, as it perpetuates the early and erroneous idea that the process is one of preventive inoculation, such as results from the introduction of the vaccine virus or "lymph." For the same reason the use of the word "inoculation" would seem to be contra-indicated by our present information as to the character of the process which follows the injection of the fluid. The word "injection" is better, because non-committal. Although no advertisements have appeared to our knowledge claiming that Koch's material is used, a few of the advertising medical fraternity are making good and often ingenious use of the popular excitement on the subject to bring their consumption cures into prominence.—*Boston Med. and Surg. Jour.*

To Contributors and Correspondents.—*The attention of all who purpose favoring us with communications is respectfully called to the following:*

Authors of articles intended for publication under the head of "original contributions" are respectfully informed that, in accepting such articles, we always do so with the understanding that the following conditions are to be observed: (1) when a manuscript is sent to this journal, a similar manuscript or any abstract thereof must not be or have been sent to any other periodical, unless we are specially notified of the fact at the time the article is sent to us; (2) accepted articles are subject to the customary rules of editorial revision, and will be published as promptly as our other engagements will admit of—we can not engage to publish an article in any specified issue; (3) any conditions which an author wishes complied with must be distinctly stated in a communication accompanying the manuscript, and no new conditions can be considered after the manuscript has been put into the type-setters' hands. We are often constrained to decline articles which, although they may be creditable to their authors, are not suitable for publication in this journal, either because they are too long, or are loaded with tabular matter or prolix histories of cases, or deal with subjects of little interest to the medical profession at large. We can not enter into any correspondence concerning our reasons for declining an article.

All letters, whether intended for publication or not, must contain the writer's name and address, not necessarily for publication. No attention will be paid to anonymous communications. Hereafter, correspondents asking for information that we are capable of giving, and that can properly be given in this journal, will be answered by number, a private communication being previously sent to each correspondent informing him under what number the answer to his note is to be looked for. All communications not intended for publication under the author's name are treated as strictly confidential. We can not give advice to laymen as to particular cases or recommend individual practitioners.

Secretaries of medical societies will confer a favor by keeping us informed of the dates of their societies' regular meetings. Brief notifications of matters that are expected to come up at particular meetings will be inserted when they are received in time.

Newspapers and other publications containing matter which the person sending them desires to bring to our notice should be marked. Members of the profession who send us information of matters of interest to our readers will be considered as doing them and us a favor, and, if the space at our command admits of it, we shall take pleasure in inserting the substance of such communications.

All communications intended for the editor should be addressed to him in care of the publishers.

All communications relating to the business of the journal should be addressed to the publishers.

THE NEW YORK MEDICAL JOURNAL, January 10, 1891.

Original Communications.

DOES MEDICAL SCIENCE TEND TO MATERIALISM?

By J. RICHARDSON PARKE, Ph. G., M. D.,

PHILADELPHIA.

It can not be denied that all science is to-day deeply tinctured by materialism. It was a matter of interested observation to the writer, while a student of medicine in Europe, under the immediate intellectual umbrage of her great exponents there, to see it made the very corner-stone of biological teaching; and it may occasion surprise to some that, notwithstanding our greater latitude of thought and sentiment pervading every department of philosophy, the heterodoxy of medicine obtains much more largely there than here; where, apart from the few studies which are best pursued from a materialistic standpoint, the deeper and more representative currents of American science appear to set in quite a contrary direction, many of our best minds professing to entertain more satisfactory reasons for adhering to their earlier belief in the existence of the Unknowable than to run a risk, which every material casuist is willing to admit, of ultimate shipwreck on the shoals of skepticism.

Circa deos negligentur quippe addictus mathematicæ—as the Latin writer says—one addicted to the study of mathematics treats the gods lightly; but, while the disciple of the exact sciences professes to have discovered the trinity in his triangle and the great Æon in his unknown number, I think the rank and file of our professional brethren will still hesitate to pronounce mind non-existent because they have not yet been able to transfix it with the point of a scalpel, and yet, if it is material, why should even this be impossible?

We may accumulate evidence, line upon line and precept upon precept, to demonstrate the reality of matter, but the most acute system of ratiocination can not destroy this one fact—that mind is the only thing in the moral or material universe upon which, by intuition alone, we may absolutely rely, and the very act of dubitation on the part of the materialist only serves to confirm its existence.

The student of anthropology, in the very nature of his investigations, is forced to the inductive methods of philosophy, and naturally discards, and quite properly, every immaterial factor in the contemplation of physical phenomena. To say that the mind thinks is, to the educated physiologist, quite as unphilosophical as to say the eye sees, although one ministers to thought as the other does to vision; but the eye itself sees no more than does the microscope which assists it in the examination of physical objects. The purely mechanical process by which, through structural peculiarities of the organ, two inverted images are pictured upon the retina, must in every case be corrected and controlled by an absolutely unknown mental operation before the single image is produced and accurate vision insured. So a lesion of a particular center in the brain may destroy vision, as paralysis of a nerve, destroying its power of conductivity, will be followed by anæsthesia of its terminal area. A word whispered in the ear will cause the face to blanch with fear or flush with anger. This is the action of mind upon matter, as, when a frightened man runs away, the act of running is the direct result of an emotion—fear; whereas, if the mind were inseparable from the body, the reverse might just as readily be the case. A blow or other injury to the cranium may permanently destroy the faculty of reason, which affords an instance of the action of matter upon mind, and analogous examples might be adduced *ad infinitum* to demonstrate the reciprocal relations of these much discussed factors in human existence. Those, however, who affirm the absolute identity of mind and matter must be very careless observers of even the grossest physiological phenomena. If man's thinking powers are nothing more than the result of a curious and complicated organization of his physical parts and inseparably identified with them, of course the dissolution of the latter must necessarily involve the annihilation of the former, and *vice versa*. The case of the unfortunate actor McCullough, that of Bartley Campbell, Swift, and a thousand others—where the body became for weeks and months the living tomb of reason—furnish adequate evidence of the fallacy of the latter proposition; and the numberless cases of motor and sensory paralysis, where the mind is seen to suffer not the slightest hebetation or diminution of vigor, as well as the mental lucidity so often observable in the decrepitude of age, clearly disprove the former. Again, if the mind be not a tenant, but a tangible component, of man's physical parts, can any thoughtful physician for a moment imagine that the palladium of its residence could, by any possible chance, have escaped the keen eyes of such anatomists as Vesalius, Morgagni, Haller, or Varrolius, who were as intimately familiar with every atom of the human organism as ever watchmaker was with the wheels of his watch? The recent discovery, or rather revision, of the cerebral centers presiding over specific corporeal functions brings us no nearer the point aimed at by the materialist than did the theory of the older anatomists, who sought to make a little sodium phosphate in the pineal gland the immaterial and thinking part of man.

We know that material stimuli act upon the mind by physical channels, as moral emotions—such as fear or anger—do upon the body through the efferent nerves; but these reciprocities of action, while clearly establishing the principle of connection, are absolutely fatal to that of identity. Indeed, it has never yet been clearly shown, to my mind, that the brain is at all capable of originating impulses, although the doctrine of automatism is somewhat vaguely taught in the text-books of physiology, both Foster and Kirkes, however, attributing it to the mere stimulus of the blood, whatever that may mean in the sense implied. Instead, then, of crying out with the Epicureans, "Whence is evil?" might we not better ask, Whence is thought, if not from some principle, or essence, or power, or thing, within and beyond our mere materialistic comprehension?

Those who assert the identity of these two great elements of vital existence will find themselves confronted at every step and on every side with phenomena which their theories will not explain any more than their experience will deny. That we have no evidence that mind is a property or faculty dependent upon any specific arrangement of matter is shown by the clinical fact that a brain physically defective may still render possible the normal processes of mentality; but, if it did not, it would be no more strange than that the most skillful musician must fail to elicit harmony from a broken or imperfect instrument. On the other hand, post-mortem dissections of those who have suffered from dementia paralytica and other forms of chronic mania usually reveal no organic deterioration of cerebral structure; and in the few cases where such structural lesions exist are we not more fully warranted in believing them the consequences, rather than the cause, of the malady, since it is a well-known pathological fact that every structure deteriorates by disuse?

Well might that boldest of all skeptics, Mr. Hume, have been startled at the temerity of his own logic when he forced the conviction upon himself that mind, if material, must necessarily be divisible, extensible, and amenable in every other way to material conditions and demands; a true *reductio ad absurdum*, which would give us a passion a yard long and a foot thick, a circular smell, and a rectangular sound. If materialism sometimes finds in philosophers like Hume so dangerous allies, must it not find in the more accurate and practical science of medicine one equally fatal?

Even under the most profound influence of anæsthesia the mental processes are not wholly annihilated, as every surgeon knows—the dream still remains—and it is a question whether complete abolition of mentality is at all compatible with life; while we all know that physical sensibility is wholly abolished. So in sleep, we see the mental operations, not suspended, as physiology would teach, but apparently liberated for a season from the dominion of an unknown factor which we may term physical will. Of course, if we admit the suspension of thought, the materialist will at once argue that what is suspended may likewise be destroyed; although even that would be equivalent to the affirmation that our thoughts of a year ago never existed, because our memory of them happens for the present to be suspended; or that matter, undergoing change from one form or condition to another, must previously be destroyed—a manifest fallacy. A peculiar mental condition is observable also in the spectacle of somnambulism; and in the spontaneous recollection of some fact of memory which previous efforts on the part of the will have been totally unable to recall. This process of unconscious cerebration—first noted, I think, by Hughlings Jackson and Ferrier—has been attributed to some missing link in the chain of association; but who will affirm that it is not, more properly, the result of mind acting without and beyond the control of the governing agent which we term will—a peculiar condition of the sensorium, in which is lost for a period the power to compare the mere force of ideation, if such exists, with the impressions derived from external objects?

If mind were material, of course death would have no power over it, as every chemist knows that it can not destroy matter, the dissolution of the body being simply the utilization of its ultimate elements in building up other and newer forms of life; and, to my mind, it is not one whit easier to conceive of life itself being distinct and separable from the body than that mind enjoys a like unity and isolation of existence.

Even the science of physiology, with all its dogmatism, merely defines the brain to be a *medium* of the higher faculties of feeling and emotion, of judgment, understanding, memory, reflection, induction, imagination, etc.; but the materialist laughs at any such limitation, preferring to accord it the absolute *paternity* of these mysterious properties, a conclusion founded upon sophistry, and utterly at variance with the teachings of such eminent neurologists as Fritsch, Hitzig, Broca, Burdon Sanderson, and others, who have devoted their lives to the consideration of physical agencies in their relation to man's thinking powers.

Few confirmed materialists ever become orthodox believers; as Arcesilaus said: "Some men are made eunuchs, but eunuchs are never made men." They roam about the country, however, reveling in the inebriety of ecclesiastic iconoclasm and crying out, with Ingersolian eloquence, for converts, much as a child does for a bed-fellow, because he is afraid to stay alone in the dark. But they make logic a subtlety, and, rather than break a lance with them, I would fain escape, like Æneas, in a cloud; but, apart from their brilliant flashes of wit, their tropes of rhetoric, the great Oriental mystery, as Disraeli termed it, remains unsolved, and the belief of three thousand years unshaken.

> . . . "Parts destroyed diminish not the whole,
> Though Berkely claim the body, Hume the soul."

Apart from the metaphysics of the question, the interests of society, all that endears us to our fellow-man, all that lifts us above him, the eduction of all that is noble, the repression of all that is vile, demand that a fixed belief in, at least, the separate existence of mind should be deep-rooted and general. Least of all should the physician, with the tremendous trusts committed to his care, learn to look too lightly upon this question of life and death. He should accept neither a Machiavelli for his moralist nor an Ingersol for his tutor, however much he may be charmed, in the abstract, by the brilliancy of such minds. If he learns to regard death as a mere quietus to human suffering, the emancipation of sense from the bitter thraldom of physical agony, what circumstance shall prevent his interposing the beneficent offices of his skill and power between the tyrant pain and his trembling victim?

No! the materialist may reason with a diligence, a resource, and an invention equal to that of the poor Israelites, who continued to deliver bricks to their taskmasters even after the materials were denied them; he may debate with the logic of a Kant, moralize with the fervor of a Diderot, draw conclusions with the specious seductiveness of a Darwin, scoff with the cynicism of a Paine or Voltaire, and philosophize with the ingenuity of a Bayle or Beaumarchais, but the immortal forms of Plato's reflections will ever continue to be the acolytes who minister before the somber altar of Death; and, while the mind may be profoundly impressed with the properties of matter, as exhibited in the various modifications of the created universe, in its grandeur, magnitude, and beauty, it must still recognize in it all only the radical and common properties which bear no tangible relation to that great, mysterious, but none the less certain capacity of thought and feeling which distinguishes the material from the immaterial, the created from the uncreated.

DIGITALIS AND STRYCHNINE IN A FAILING CIRCULATION.

By C. S. BRADFUTE, M.D.,
DEMONSTRATOR OF THERAPEUTICS, JEFFERSON MEDICAL COLLEGE, PHILADELPHIA.

DIGITALIS, caffea, strophanthus, scoparius, and *Adonis vernalis* constitute a most useful group of agents that exhibit an action upon the circulatory apparatus commonly spoken of as tonic or stimulant, but, when the physiological effects of these drugs are considered critically from the standpoint of their application to diseased states, it will be seen that their use is more limited than is generally supposed. The concomitant actions upon parts and functions of the organism other than the heart and circulation possessed by each frequently present a barrier to their employment, even where the circulatory symptoms would seem to indicate their prompt administration. The physiological action of digitalis and the indications for its use in purely cardiac affections are so ably and clearly described in the works of Bartholow, Brunton, and Wood that it would be out of place to treat of them here; but, in view of its extensive and condemnable use in so many instances of a weakened and failing circulation, irrespective of the condition of the patient or the causes leading up to it, as shown by almost weekly reports of cases in the journals, a few remarks tending to elucidate contra-indications may be useful in checking its indiscriminate employment, as well as explanatory of the writer's advocacy of strychnine as a circulatory stimulant.

In the class of constitutional diseases, especially those characterized by a continuous high temperature, accompanied by any of the various forms of degenerative change in the organs and muscular system, digitalis is not the remedy, and where these changes affect markedly the cardiac structure it is conspicuously contra-indicated. The action of the drug upon the muscular fiber is one of stimulation followed by an increase in its force power, and if the fiber is surrounded by or contains within its substance granules or particles of fatty change, it can be readily seen that the indications are for the relief of overwork, and not to compel it to do what it is already physically incapacitated to perform. For example, in typhoid fever the condition just outlined is always present, and the administration of digitalis in doses sufficient to produce even a slight physiological effect can not fail to do harm; but that this fact is frequently overlooked, and by practitioners of eminence, there is ample evidence. Only a short time since appeared an admirable lecture on the morbid anatomy of typhoid fever by a most competent clinical observer, who, in the course of his remarks, minutely describing a case, mentioned that he administered the tincture of digitalis, but it failed to affect the weakening circulation. In addition to the ugly action of digitalis upon diseased heart tissue, its property of contracting the arterioles, causing a rise in the blood-pressure, increases the total amount of cardiac work necessary to be done, which is so injurious as to result sometimes in practically a paralysis of the entire organ—a mishap that has occurred after a sudden change from the recumbent to the erect posture in instances of undue exhibition of the drug where there was no interference by disease with the normal function of the heart fiber. Its influence upon the inhibitory centers also offers an obstacle to its use when the above-mentioned objections may not exist, and on account of this it is well to remember that, as a rule, subject to modifications attendant upon exceptional cases, a weak and slow heart is not amenable to the curative effects of digitalis; rather is it a weak and rapid heart that presents the most favorable opportunity for the display of its peculiar action. Phosphorus poisoning, typhus and yellow fevers, atheroma, and fatty heart, are affections presenting a pathological anatomy contra-indicating the employment of digitalis, especially in the last stages of these diseases. Aside from its use in simple heart disease, unless very skillfully handled, digitalis is only effective in the failing circulation of hæmorrhage, shock, and certain acute affections, especially when the cardiac movements are very rapid, where the result desired is a bracing up, as it were, of the general circulatory apparatus until Nature has time to recover herself. In shock following head injuries, when the heart is slow, nitroglycerin is the better agent, as it paralyzes the inhibitory centers and dilates the arterioles, thus promoting the activity of the heart and increasing the rapidity of the blood current. But in these instances there are no degenerative changes in the heart muscle to negative violent stimulation of the fiber. In acute phthisis, accompanied by an irritative fever and a rapid and sometimes tumultuous heart, digitalis is often very useful, but it is manifestly unsafe to administer it in large doses. The Harveian lecturer of 1890 calls attention to the independence of the systemic and pulmonary circulations, which opens up a new field for the study of pulmonary therapeutics; and it may be that future experiments and observations may preclude the employment of many of the drugs now used in lung affections; but, under our present knowledge, digitalis is an excellent remedy for the failing heart of continued pulmonary hæmorrhage and the gray hepatization stage of pneumonia. In the latter, digitalis does good so long as the heart does not beat below the normal rate; when the pulse drops below 70, some other remedy must be given. In the first and second stages of pneumonia, when active inflammation is going on, digitalis is out of place, as it only causes the heart to pump more blood into an already surcharged area, and can have but little influence over the temperature. In myocarditis, where exudative material is poured out in and around the muscular substance, digitalis adds insult to injury, and the interference with function from the disease is only increased.

From these few remarks it can easily be seen that some of the contra-indications that may be present in disease prohibiting the use of digitalis, or a remedy having a similar action, are congestion and inflammatory obstruction in the pulmonary structure; degenerative changes in the muscular system, including the heart; general interruption of the nutritive processes, with accumulation of serum in the tissues; sudden cardiac failure; and all conditions in which the heart-beats are less than normal. Of course, no iron-clad rules can be laid down; but if the drug is given in maladies characterized by any of the above-mentioned lesions, it must be used with great care.

In selecting a remedy to combat a failing circulation, all the structural changes and diminished or lost functions must be accurately studied and the influences resulting therefrom duly considered. Without the intelligence accruing from such a consideration of a given case, it is impossible to apply a proper drug, no matter how well known is its action. A thorough knowledge of the normal physiological state of the patient, the pathological changes that have taken place, and the physiological action of the drug, is essential to successful therapeutics, and in no instance is a familiarity with these three points more important than in a case of failing circulation.

In those protracted diseases in which this formidable symptom arises the general condition of the patient may be summarized as follows: The muscular system is weak, flabby, degenerated, and ill-nourished; the nervous system is reflexly disorganized; the nerve conducting paths, chiefly at the periphery, are partially or entirely obstructed, so that tissue sensation and motility are interfered with and vaso-motor paresis is marked, thus checking normal physiological change in part or even in places completely; the secretory structures are either exhausted—not functionating—or their products are unfit for use; the circulatory apparatus is devoid of tone and strength; and the total area of blood space is increased, owing to paretic dilatation of the smaller vessels. In such a condition here presented the failing circulation is due not so much to the disease *per se* as to vitiated anatomical structure and physiological function, and the indications for treatment are plain. The prime object to be desired is the restoration of the function of the spinal cord, reflex centers, and nerve endings. A drug that will do this causes a cessation in the destruction of tissue and lessens waste, thereby minimizing the drain upon the nutritive elements of an already deteriorated blood; vaso-motor tonus returns, the arterioles and capillaries contract, the superabundant vascular space disappears, and hence a larger amount of blood passes through the heart at each cardiac cycle, stimulating its action and promoting its nutrition.

The writer has elsewhere * called attention to the adaptability of strychnine to the morbid condition outlined above, and a study of its systemic action would seem to confirm the supposition, even if ample clinical experience had not placed it beyond doubt. The action of this remedy being expended upon the spinal cord, and this part of the nervous system, in conjunction with the sympathetic, playing so important a *rôle* in regulating and maintaining the various processes of organic life, it is natural to infer that an intelligent stimulation of its functional activity would, under such circumstances, be a perfectly logical procedure, provided no structural lesion existed in its substance. A graphic illustration of the restorative action of strychnine in a failing circulation artificially produced is afforded by the following experiment: Take a large-sized healthy frog and inject under its skin five minims of a fresh preparation of the fluid extract of aconite root; in a short time the animal will become so far poisoned as to lie, when placed upon its back, in a limp position, with greatly diminished reflexes. Then inject one sixtieth of a grain of sulphate of strychnine, and in a few minutes distinct voluntary movements will be executed, and, if carefully treated, the frog can be restored to its normal condition. The mechanism of recovery here displayed is the same as that in a failing circulation due to disease, but, unfortunately, the element of malnutrition in the latter very often prevents the reaction. This obstacle can be combated with a reasonable surety of success by the liberal use of alcohol, as this agent, being one of the most diffusible foods at our command, is readily taken up, and its elements appropriated by the tissues for utilization in the production of heat and force. The writer remembers very vividly a case once under his care that responded beautifully to the action of strychnine when it seemed that nothing could stem the tide of dissolution. The patient, aged about fifty-five, had undergone an operation for an enlarged prostate. Five days afterward formidable symptoms of collapse appeared, resulting from profound septic infection; the patient was insensible, heart feeble, pulse running, skin relaxed and sweating, lips blue, and reflexes abolished. Hypodermic injections of one sixtieth of a grain of sulphate of strychnine were given at short intervals up to six doses, with the effect of steadying and strengthening the heart, increasing the volume of the pulse, which lost its running character, drying of the skin, relieving the cyanosis, re-establishing the knee-jerk and eye reflexes, and restoring consciousness, and all this after other remedies usually employed had failed. The patient, however, eventually died of septicæmia, but the restorative power of strychnine was practically demonstrated. The physicians of tropical countries have long used strychnine in the depressing stages of yellow fever as a cardiac and respiratory stimulant, and recently some eminent writers have remarked upon its salutary effects. In selected cases—that is, in those where the failing circulation is due to the causes above mentioned—the writer has come to regard this agent as one that can always be depended upon if recovery is possible. Its administration must be guided by the effect produced; one sixtieth of a grain of the sulphate may be given hypodermically every two hours, or oftener if necessary, until there is the desired response. It is interesting to note that in such a condition of the system large amounts are readily borne, especially if the patient has been taking much alcohol, and as much as four grains given in the twenty-four hours have not produced toxic symptoms. The failing circulation of diphtheria is a typical one for the exhibition of strychnine, for in this affection in its severer forms we have all the conditions present to which its action is antagonistic. Even during the first stages the reflexes are diminished and the knee-jerk is absent, and the behavior of the various paralyses that follow the disease indicates strongly only a profound functional disturbance of the nervous system, a pre-eminently favorable morbid anatomy for the action of the drug.

---

* Paper on The Treatment of a Failing Circulation, with Special Reference to the Use of Strychnine, to be published in the *Medical News*, Philadelphia.

AN EPIDEMIC OF PRESUMABLY MALARIAL ORIGIN

CHARACTERIZED BY ACUTE RENAL CONGESTION, WITH CONCOMITANT INFLAMMATORY LESIONS OF THE HEART.

By EDWARD S. DWIGHT, M. D.,
SMYRNA, DEL.

The peculiar form of disease concerning which this article is written has probably ere this become familiar to many of the medical fraternity; but, as I have not met with any article upon the subject, I take the opportunity to write this short sketch of the cases which I have personally encountered, in view of their unusual character and of their gravity, as well as of the distressing nature of their symptoms.

During the past four months I have been called upon to treat nearly thirty patients who have presented, with varying degrees of severity, certain anomalous symptoms referable to acute congestion of the kidneys, these symptoms being sometimes associated with recognizable attacks of the hybrid forms of malarial fever here prevalent at certain seasons, and sometimes being unaccompanied by any appreciable rise of temperature whatever. Some of these cases were very mild and yielded readily to treatment. Others were of the most alarming severity, several terminating fatally.

I suppose them all to have been primarily due to malarial influence, as in most of the cases there had never been any previous suspicion of renal or vesical disease, the attacks generally coming on, after a variable period of malaise, without any direct recognizable cause being apparent. To this rule, however, there were a few exceptions, in one instance this condition occurring as a complication in the course of a mild attack of diphtheria, where the patient, previously doing well, suddenly showed symptoms of exhaustion with feeble heart action. Examination of the urine revealed great congestion of the kidneys, which having been relieved, the original malady went on rapidly to recovery. In the other exceptions noted there may have been a possible antecedent history of chronic Bright's disease in its earliest stages, though the patients had not been previously examined for that unsuspected lesion.

As already stated, the attacks have been commonly preceded by a variable period of malaise, this condition being accompanied by frequent urination, backache—or at least a feeling of weight in the lumbar region—lassitude, and often vague neuralgic pains in the side or in the abdomen.

When the disease had become completely developed, however, the cases ordinarily presented about the following symptoms: Weakness, dyspnœa, giddiness or headache, and a feeble, accelerated pulse ranging between 100 and 130, in some cases dicrotic, and in old people intermitting. Cardiac lesions were almost invariably present: sometimes pericarditis, sometimes endocarditis, sometimes both. In some of the more severe cases of the former the embarrassment of respiration attained the degree of orthopnœa, cervical breathing being very marked in two or three instances.

The nature of the dyspnœa varied. In one case, where respiration was only carried on with intense difficulty, the impediment to breathing seemed due to general pulmonary congestion superadded to the pericarditis. Here dry cupping and hot poultices afforded considerable relief. In at least two other instances, however, the dyspnœa seemed rather to be due to anæmia of the lungs, and in these cases an attempt at counter-irritation seemed but to increase the patients' distress.

In all these cases the urine was found to be limpid, almost devoid of color and smell, sometimes alkaline, sometimes slightly acid, and of a specific gravity ranging from 1·002 to 1·008. When the latter density was attained, albumin would be encountered, often to the extent of 25 or 30 per cent. of volume.

The patients would usually give a history of persistent insomnia. Several complained of a frequent hacking cough of reflex origin, which would, by its constant repetition, give rise ultimately to bronchitis with mucous expectoration. Though, as already mentioned, giddiness or headache was commonly met with in these cases, in no instance did I encounter any condition of amblyopia which could in any way be referred to the renal difficulties under consideration.

Six of my female patients experienced trouble with the bladder, and in the case of two of them recourse to the catheter was necessary, on account of tonic spasm of the vesical neck. Five of these patients suffered with excruciating pains, which in one case terminated in the course of half an hour or so, but in the others persisted at intervals for several days.

But one of these six patients had ever before experienced any pain whatsoever in the bladder, or had any disease of that viscus.

The vesical lesion seemed in two instances to have assumed the form of cystitis, but in the others it appeared rather to be a neurosis. In all five cases, however, there was a severe neuralgia in this locality, and, in addition to the most distressing tenesmus, the patients experienced excruciating thrilling pains, which radiated toward the surrounding viscera. As they expressed it, it felt as though there were cords pulling.

The tongue in all instances was coated, and there was sometimes slight nausea. In the worst cases there was an almost complete loss of appetite.

Seven at least of my patients showed symptoms of fever, the exacerbation coming on early in the afternoon, being sometimes preceded by a slight chill. This fever would usually diminish again toward evening, without the intervention of any sweating stage. The temperature has not commonly exceeded 103° or 103·5° F., although in one fatal case, having attained 105·5° and commenced as usual to subside, it again rose during the course of the night and must have attained 112° before death, this intense pyrexia developing very unexpectedly and reaching its climax with great rapidity.

Owing to the pericarditis with which they suffered, several of my patients were unable to lie down for a number of nights in succession by reason of the dyspnœa induced by a recumbent position, but passed their nights in a chair, preferably leaning forward if possible.

In four cases there was high fever of the intermittent type, accompanied in two instances by wild delirium, the latter subsiding as the temperature abated.

In one or two instances nature seemed to set up a compensatory vomiting or purging, apparently to eliminate from the system the urea which the kidneys were unable to excrete. But anasarca was usually wanting, except as a result of the weakness of the circulation and of the invalid being forced to steadily maintain a sitting posture for so long a time.

Perhaps by a mere coincidence, or perhaps as a result of their less active life and consequent lessened vitality, females were attacked in the proportion of two to one. And the sufferings of one lady, I must remark, were chiefly in the way of *facial* neuralgia.

The duration of the attacks varied in the different cases from a few days to several weeks.

Of these cases, four terminated fatally, in one of which I was called to see the patient less than twenty-four hours before his death, his previous treatment having, through an error of diagnosis, been for an ordinary asthmatic attack. In a second case the condition described was grafted upon a probable chronic Bright's disease of long standing. Here there was abundant hæmaturia, and death was preceded by complete suppression. The third terminated fatally as a result of the intense pyrexia already mentioned, the patient becoming comatose when the temperature had risen to 110°. The fourth proved fatal from sudden heart failure following an attack of vomiting. Probably there was antecedent Bright's disease in this case also, and the urine contained an unusual amount of albumin (from 30 to 60 per cent.).

The ages of these thirty persons ranged from five to eighty years, but the great majority were at the period of early adult life.

The treatment adopted was in the severer cases necessarily of a tentative nature, as I did not remember ever before to have encountered or read of attacks of this kind. I had therefore to feel my way, being prepared to promptly discontinue any line of medication which did not bring rapid relief. As the tongue was usually coated, small repeated doses of cholagogues were given to relieve the portal system and thereby to diminish the backward pressure in the renal veins, their use being kept up until the tongue had cleaned off to a reasonable extent. Hot poultices were at once applied to the loins; but if, as was sometimes the case, they caused a sensation of faintness or seemed in any way to aggravate the patient's condition, they were at once discontinued.

To promote the action of the skin in the more severe cases, and at the same time to calm the vascular excitement, sedative diaphoretics—such as the liquor ammonii acetatis and the liquor potassii citratis—were employed, often in combination with small doses of the compound spirits of ether. Sponging of the limbs and body with tepid water was prescribed in some of the cases, but did not seem productive of much benefit.

The fever often subsided of itself as soon as the congestion of the kidneys was relieved; when it persisted, quinine was given if the patient could take it, and seemed in some cases to exert a very favorable influence upon the system, the reflex cough being ordinarily checked by its use. But I have often found it necessary to administer it in small quantities, as with some it had a manifest tendency to aggravate the irritability of the heart. Indeed, in my later cases I have given both quinine—when well supported—and arsenic, whether fever was present or not, the second remedy seeming to be especially indicated whenever any considerable degree of anæmia was found.

Some few of the patients were unable to take quinine at all, and in two instances I prescribed quebracho. One young lady, whom I was called upon to treat for a recurrence of the dyspnœa, presented a condition of pulmonary anæmia with coexisting pericarditis and endocarditis together with a highly irritable stomach. In her case I gave very great benefit by the use of this drug given in forty or fifty drop doses of the fluid extract four times a day in rectal injection, the remedy being given alike to obtain its antiperiodic effects and also its equalizing action upon the cardiac and pulmonary circulations. Almost the first dose enabled her to breathe more easily than she had been doing. In the second case the same preparation was used *per os*, with a view to obviate the sense of præcordial distress pertaining at the times of malarial access; but I failed to detect any particular amelioration of the symptoms from its use.

When the action of the heart was very rapid and feeble, I relied upon nux vomica, the bromide or the citrate of caffeine, carbonate of ammonium, and digitalis, though instances were not wanting where the latter remedy seemed to do more harm than good by increasing the already existing renal congestion. Small doses of morphine were also prescribed on one occasion. In cases of pericarditis great relief was obtained from the application of small blisters over the præcordia, the patient being enabled thereby, in more than one instance, to spend the ensuing night in bed, where he had previously been confined to a chair.

When pulmonary congestion was encountered, hot flaxseed poultices were applied to the chest, and in one very severe case, already alluded to, dry cupping was also employed and seemed to afford immediate relief, the patient having previously been apparently upon the verge of suffocation.

In the treatment of the accompanying insomnia a variety of remedies were found necessary. In two cases sulphonal afforded the patients some hours of sleep when other remedies had failed; in others, valerian or chloric ether, alone or in combination with a sedative diaphoretic mixture, seemed best to allay the excited brain; with others still the bromides of ammonium and sodium succeeded well. Chloral and ergot were also given, but the former I did not dare to give in ordinary doses on account of the weak condition of the heart.

In two or three of the most desperate cases, where great exhaustion was present and the tongue was dry and hard, I used alcoholic stimulants in small doses, which seemed to quiet the nervousness considerably and steady the heart. These cases were, however, among those that terminated fatally.

When cystitis existed, hot fomentations frequently renewed were used over the suprapubic region. Turpentine in very small quantities was cautiously tried, and in two instances morphine was injected hypodermically. In one very severe case the hydrochloride of cocaine dissolved in a thin mucilage was twice a day injected into the bladder, affording great relief from the intense suffering. These injections were sometimes preceded by irrigation with hot water.

The treatment of the milder attacks was much more simple, and consisted of hot poultices to the lumbar region, mild cholagogue cathartics, and some preparation of iron, such as the mistura ferri et ammonii acetatis, followed by quinine and arsenic. Such cases improved very rapidly.

In one case of almost complete anorexia the lactate of iron seemed very serviceable in recalling the appetite; in other cases it failed, and the bitter tonics were relied upon instead.

In the treatment of the febrile cases I employed antipyrine but once, and then in small doses, as I feared a depressing influence upon the enfeebled heart. In this particular case it had but little effect in reducing the temperature, the quantity not probably being sufficient, though as large as I dared give.

The diet prescribed consisted largely of milk whenever the patients could take it. Lemonade was also given in some of the cases to promote the action of the skin. Where there was great exhaustion, some concentrated meat extract, such as bovinine, was administered in large doses with the milk; and almost anything the patient's appetite craved, except ice-water and ice-cream, was allowed. Where the powers of digestion were greatly enfeebled I had recourse to lactopeptin or ingluvin and to the bitter tonics.

During the period that these cases were under treatment I had also under my care a number of patients with obstinate attacks of remittent fever. One of these had an endocarditic complication, though without any renal congestion, and a second had a pernicious chill of the algid type occurring in the course of her illness.

In the renal cases above described I attributed all the anomalous symptoms to the combined influence of the malarial poison with that of the retained urea upon the different organs, though I am rather at a loss how to account for the acute cystitis mentioned as a complication in two instances.

The convalescence of the more severe cases has been slow and tedious, and there has been a marked tendency in many to the occurrence of relapses. I have latterly, as a prophylactic measure, advised the use of water which had been boiled, but I can not yet vouch for its having been of any benefit. Several of the patients suffered considerably during convalescence with rheumatic pains in the muscles of the chest and back. Here the faradaic current proved of more efficacy than internal treatment, one application being usually all that was required.

NOTES ON
A CASE OF POISONING BY ANTIPYRINE.*

By HERMANN M. BIGGS, M. D.

Many cases of poisoning by antipyrine have been reported during the last two or three years, and the symptomatology in them has been exceedingly varied. In the majority of cases there have been either skin eruptions, symptoms of cardiac depression, or more or less profound and varied nervous disturbances. In some instances the symptoms have appeared after a single dose of ten or fifteen grains, while in others it has been only after a long and continued use of the drug in considerable quantities that untoward effects were suddenly produced. The case that I shall report is interesting chiefly because of the prominence of the renal symptoms. These have been but little noted in the cases previously reported. The history is as follows:

A moderately robust man, aged thirty-five, who had been accustomed to use antipyrine for headache, was seized with chill followed by severe headache, backache, and fever, and took for the relief of the pain ten grains of antipyrine twice with an interval of about four hours between the doses. When I saw him after the second dose I found him suffering from an attack of follicular amygdalitis associated with considerable temperature and much pain in the back and head. Although the antipyrine had somewhat relieved the pain, it was still very severe, and I ordered the drug to be continued in ten-grain doses at four hours' interval for two or three doses, or until the pain was relieved. He took in the course of the next twenty-four hours forty grains, and I then ordered the drug discontinued, because I rather feared its action, although no unusual symptoms had been produced. He had at this time taken sixty grains in divided doses in the course of about thirty hours. A few hours after the drug was discontinued he noticed that his urine was of a very dark color and called my attention to it. On examination, I found a urine of rather high specific gravity and having the peculiar dark olive-green color of urine in carbolic-acid poisoning. Clinical examination showed the presence in it of a small amount of albumin, and microscopical examination revealed the presence of many red blood-corpuscles and numerous small hyaline casts. The dark color and the presence of albumin, blood-corpuscles, and casts continued with rather a scanty secretion nearly forty eight hours, and then gradually disappeared in the course of two or three days. There was no evidence of the existence of renal disease previous to the illness in which I saw this patient. On the contrary, his urine had been carefully examined by a competent physician only a few months prior to this time, and in a few days after this attack had returned to an entirely normal condition again.

---

* Read before the Society of the Alumni of Bellevue Hospital, October 1, 1890.

Eloy, after a review of the cases of poisoning reported, concludes that antipyrine should not be given in antipyretic doses to fever patients, because it interferes with the action of the kidneys, and that in acute febrile conditions (typhoid fever, pneumonia, etc.) associated with nephritis it is contra-indicated.

Huchard warns against its employment in all cases in which the kidneys are diseased, as its elimination is interfered with and toxic symptoms may arise.

Peter reports a case of typhoid fever in which death occurred from uræmia apparently due to the action of the drug.

Drescher reports two cases of retention of urine from its use, and states that diminution in the secretion always results from its action.

Porter reports a fatal case of rheumatism in which there was extensive fatty degeneration of the liver and kidneys, probably caused by the continued use of antipyrine, and states that he has often seen this fatty change in the bodies of those who have been treated with the drug.

A CASE OF REFLEX EPILEPTOID CONVULSIONS FOLLOWING AN ERUPTION OF ZOSTER.*

By JOHN M. BYRON, M. D.

I have the honor of presenting to-night to this society a typical case of reflex epileptoid convulsions which I have been able to follow almost from its beginning to its end.

Reflex convulsions in children are not uncommon. The slightest factor, such as would not alter at all the nervous system of an adult, may cause in a child a serious disturbance of equilibrium between given impressions and the consequent motor reaction. A cicatrix, a puncture of the skin, a little splinter of wood, intestinal parasites, etc., often give rise to such disorders.

My case relates to a boy in good health who, after having an eruption on the skin, suddenly began to present epileptoid convulsions which, under proper treatment, disappeared with as great rapidity as they began. The history is as follows:

Mike, aged twelve, is a very bright little Italian, resident in this country eight years. His father died three years ago of an attack of pneumonia; he had been always in good health and was an industrious, sober man. His mother is living and is a healthy, well-nourished woman. This child, according to his mother, has always been in good health until his late illness; he is well nourished and has no physical deformity. He is intelligent, and no history of traumatism or fright can be found. About the last of August he began to feel a burning sensation on the skin in the region supplied by the superior superficial branches of the cervical plexus—*e. g.*, the mastoid branch supplying the lateral skin of the skull; the auricular branch supplying the skin of the ear; the transverse cervical supplying the skin in the upper part of the neck; the supraclavicular supplying the lower part of the neck and the upper part of the chest; and the supra-acromial supplying the anterior and exterior portions of the shoulder. The burning sensation would change to a very severe pain when any portion of the skin supplied by the above-mentioned nerves was touched; after a day or so vesicles appeared all over the region supplied by these branches, and with the vesicles convulsions occurred about every half-hour. The mother described the convulsions quite graphically. A few minutes before they would appear, she said the boy would lose his habitual gayness and complain of dizziness; suddenly he would give a cry and fall into her arms, with distorted face and a tonic convulsion principally confined to the right side of the body. Foam would ooze from the mouth and the face would become *blue.* After a very short time—about half a minute—the convulsions would change into clonic, and, what is worth mentioning, the child would scratch furiously the eruption on his left side, almost tearing the skin off. After about two minutes the child would regain consciousness and continue his plays. He complained almost constantly of a very strange sensation a little previous to the convulsions, locating it over the skin affected with zoster, and particularly near the heart. Seven or eight days after the convulsions appeared the boy was brought for treatment to the New York Dispensary, where I saw him for the first time.

After learning his history and thoroughly examining him, I made the diagnosis of reflex epileptoid convulsions.

The eruption could scarcely be recognized excepting on the terminal branches of the mastoid division of the left cervical plexus; there the characteristic disposition of the vesicles could be seen, but the diagnosis of zoster was easy, considering the precise distribution of the eruption just on the field of the nerves I have mentioned. The complete absence of family history regarding nervous affections, syphilis, or drunkenness, the sudden appearance of the convulsions after the eruption, the perfect health and conformation of the child, and the results of the treatment, all tend to confirm the diagnosis.

The first day I saw the child he had two convulsions within the space of an hour, and I carefully observed all their characteristics. The mother's description was perfect; she had only omitted to state that the child would turn its head toward the right side—that is to say, the side opposed to the lesion.

The initial scream, the tetanic stage, and the subsequent clonic convulsions, with dilated pupils and foamy mouth, afforded a perfect picture of a genuine epileptic convulsion had the ætiology not been known.

When interrogated as to whether he remembered what happened to him, he answered in the negative; he only remembered the ugly sensation in his left side and the dizziness just prior to the convulsion.

As the case was of uncommon interest, at least to me, I invited Dr. E. D. Fisher to see him and give me his opinion. Dr. Fisher kindly examined him carefully and confirmed my diagnosis, which has been wholly ratified by the results of the treatment.

As the cause was known, my first step was to direct my treatment to the eruption, giving at the same time some sedative in order to moderate the abnormal nervous excitability.

I ordered the eruption to be washed twice a day with a solution of bichloride of mercury (1 to 1,000) and an ointment of vaseline and carbolic acid (1 to 20). Internally the following potion was used:

℞ Potassii bromidi.................... gr. viij;
Chloral. hydrat.................... gr. v;
Aquæ............................ad ℨj.
M. Sig.: Three times a day.

After two days the eruption began to improve and the lapse of time between the convulsions to widen. A fortnight later the convulsions had totally disappeared, as well as the eruption. The boy is yet under treatment as a precautionary measure, but I feel confident that the fits will not return, once the cause that provoked them has entirely disappeared.

---

* Read before the Society of the Alumni of Bellevue Hospital, October 1, 1890.

A CASE OF CIRCUMCÆCAL ABSCESS.*

By ROBERT J. CARLISLE, M. D.

E. W., aged eighteen years, colored, laborer, was admitted to the Workhouse Hospital May 1, 1890. Twelve days prior to this, while at work on Hart's Island, he first began to suffer from headache and malaise; this continued for a week, his bowels being costive. On April 25th he reports a chill and some pain in the right iliac region. On the 29th was quite feverish, and could not walk without considerable pain in this region. He took some salts and his bowels moved several times. He was no better on the 30th. He was transferred by boat to Blackwell's Island, and was permitted to walk from the landing to the third floor of the Workhouse.

May 2d.—Temperature, 101°; pulse, 104; respiration, 21. The abdomen was quire tympanitic, generally, on percussion; there was marked pain on pressure over the caput coli, and over this region a distinct tympanitic dullness was noted. The patient was ordered one eighth of a grain of sulphate of morphine every two hours. The next day the temperature was 103°; there was a distinct swelling in this region, with evidence of deep fluctuation, the tumor pointing at a point about two inches above the anterior superior spine of the ilium. The area where pain was felt was well marked, and described a curved line extending from just above the point of the abscess to the junction of the middle with the inner third of Poupart's ligament, the most salient part of this being about midway between the anterior superior spine of the ilium and the umbilicus. The pain was absolutely limited by this line; beyond it there was no pain.

The patient was now etherized, and, after antiseptic washings, the abscess was opened by a curved incision over its most prominent part. The abdominal muscles were found œdematous, and the internal oblique and transversalis gangrenous in places. When the pus was reached it appeared at the innermost extremity of the incision—namely, about an inch above and to the inner side of Poupart's ligament—and about a pint of greenish pus with a marked fæcal odor was discharged. When the pus ceased to flow, it was found that the bottom of the cavity toward the median line could not be reached with the finger. The cæcum could be felt and moved; the vermiform appendix was not seen. The cavity was now washed out with a large quantity of sublimate solution (1 to 5,000), a drainage-tube was inserted, and the cavity was packed with iodoform gauze. The patient's pulse at this time was 150, and his temperature 100°.

In consequence of a misunderstanding, the cavity was not dressed by the house physician until the fourth day, when the temperature had reached 102·8° and the pulse 108. After this the cavity was cleansed every day, but it was not until the fourth day thereafter that the temperature had fallen to normal. The wound was not entirely closed, however, till three weeks had elapsed.

In arriving at a diagnosis in this case, I have had the valuable advice of Dr. H. M. Biggs, who was present at the operation, and I am of the opinion that it was a case of rupture of the vermiform appendix, with localized peritonitis, which shut off the pus from the general peritoneal cavity.

The Harlem Medical Association.—At the meeting of Wednesday evening, the 7th inst., the programme included a paper on Curvature of the Spine, by Dr. J. Gardner Smith.

---

* Read before the Society of the Alumni of Bellevue Hospital, October 1, 1890.

STUDIES IN THERAPEUTICS.

ACONITE.

By JOHN AULDE, M. D.,
PHILADELPHIA.

Aconite is the tuberous root of *Aconitum napellus* (*Ranunculaceæ*), collected in winter or early spring. The principal alkaloid, aconitine, exists in two forms, crystalline and amorphous, and is found combined with aconitic acid. The crystalline substance is soluble in chloroform, ether, and alcohol, in fifty parts of cold and a hundred and fifty parts of hot water; the amorphous form is less soluble. Other alkaloids are also obtained from aconite, viz., pseudaconitine, from Nepal aconite, much more powerful than ordinary aconitine; and from Japanese aconite, it is said, a still more powerful principle is obtained. The leaves contain but a small quantity of this principle, and are not now used in medicine.

The preparations, according to the last edition of the Pharmacopœia, include the abstract, the extract and fluid extract, and the tincture. It should be noted here that while the pharmacopœial tincture contains but forty parts of the drug to a hundred, it is now of about twenty-eight times the strength of the tincture of the leaf prepared according to the formula of 1870. The preparation known as Flemming's tincture contains seventy-nine parts to a hundred, and is of about twice the strength of the usual tincture, while the British Pharmacopœia requires but sixteen, the French twenty, and the German but ten parts to a hundred, the latter proportion being the safer for general use.

Aconitine, either the crystalline or amorphous product, has an alkaline reaction, but, with the exception of Merck's and Duquesnel's, the products in the market are very uncertain, many of them being inert, or a combination of different alkaloids. Napelline is simply a weaker aconitine, although hypnotic properties are alleged for it. Oleate of aconitine is a two-per-cent. solution of the alkaloid aconitine in oleic acid, and is used externally.

There is no aconite liniment in either the United States or British Pharmacopœia, but it will be found in practice that a mixture containing ten minims of a reliable fluid extract to the ounce of soap liniment will be very effective in allaying pain and reducing inflammatory action.

In administering aconite by the stomach, the smallest dose should be given at short intervals, say half a drop of the tincture every ten minutes for an hour, then according to the demands of the disease process, measured by the effects produced.

Pharmacology.—The poison of this drug is very active, and when a solution is applied locally there follow tingling and numbness; a sensation is produced in the tongue, and practically in all parts supplied by the fifth nerve, when taken internally, although oxidation is neither accelerated nor retarded by aconitine. Acting as a paralyzer of the peripheral ends of the sensory nerves, it answers the purpose of a sedative when locally applied; and for the same reason, when exhibited in the early stages of inflammatory action affecting mucous surfaces, aconite relieves pain, overcomes the tendency to congestion, and, in connection with other appropriate treatment, favors resolution in beginning pneumonia, the early stages of amygdalitis, and other morbid conditions marked by increased activity of the circulation and elevation of temperature. The subject of temperature is a point strongly insisted upon by Ringer, who asserts that aconite is valueless without elevation of the temperature, a statement confirmed by clinical observation. In emphasizing a belief in the virtues of this most valuable drug, I can not overlook the most important indication for its employment, and without which it is contra-indicated in the large majority of cases.

That aconite possesses anodyne properties and lessens the excitability of sensory nerves there can be no question, but its influence upon the cerebral centers is less distinctly understood. Aconite is one among a class of drugs having a special paralyzing action upon the respiratory center, but, as compared with gelsemium, this effect in small doses will be inappreciable, the poisonous action being thus maintained in the periphery, while both the heart and the respiratory center remain unaffected. Under the influence of large doses, however, or small doses long continued, the respiration becomes slow and shallow, and, when reached by a gradual process, the pulse is greatly reduced in frequency, although it remains regular. This effect is probably due to the action of the drug upon the vagus roots, which is said to be one of the peculiarities of all the members of the digitalis group. Cold has a like effect; consequently a patient under the influence of aconite should not be too much exposed.

Antagonists are heat, small doses of strychnine, strophanthus, ammonia, alcohol, or atropine, but not digitalis when there is a probability that its administration will have to be continued, or even repeated within a short interval. The experiments of Brunton warrant him in asserting that aconitine and digitalin are mutually antagonistic, at least to a limited extent; that when stopped by digitalin, aconitine or aconite will restore the cardiac movements, and *vice versa*; but we are not informed as to the period of time during which restoration will be maintained. If simply the effect of direct action and fugacious, the antagonism is practically useless.

As a cardiac sedative, aconite should be used with caution. A *lethal dose* of aconitine may be met by the administration of five sixths the quantity of atropine or strychnine or two thirds the quantity of digitalin; and when it is borne in mind that, when taken by the stomach, alkaloids require a greater length of time to develop physiological effects, and the possibility of their being destroyed in passing through the liver, the hypodermic method of administration should be adopted.

It has already been stated that aconite has a peculiar depressing influence upon the *nerve-centers*, but this can be the case only when the remedy is too rapidly pushed until the system is surcharged, or owing to idiosyncrasy on the part of the patient, when, of course, its toxic action will become manifest and collapse may follow. Lethal doses in frogs are attended with increasing loss of both voluntary and reflex motion; respiration is paralyzed and the heart stops in diastole. The circulation in man is perceptibly affected, the pulse-rate being rapidly reduced by drop-doses of the tincture at intervals of half an hour, presumably caused by its influence upon the vagus roots; but this will not occur when atropine is given at the same time, an important factor contra-indicating the joint or alternate use of *aconite and belladonna*, a practice believed to be followed more generally than is supposed. Occasionally it will be found that aconite does not lower the pulse-rate; but we should not on these grounds condemn the drug. Its action is not alike in all diseases, for which due allowance must be made rather than an increase of the dose, larger doses being calculated to produce vaso-motor derangements, with dyspnœa and great muscular weakness. Atropine overcomes these symptoms, though not always preventing paralysis of respiration, but convulsions may occur, which Brunton says do not seem to be due entirely to asphyxia. In aconite poisoning it has been shown that respiration ceases before the heart action, the organ continuing to beat after apparent death.

The clinical value of this remedy demands attention concerning the action upon special organs, which may be summarized as follows: The brain is unaffected, except indirectly through the failure of respiration; and just as venosity of the blood may cause dyspnœa, so clonic convulsions may occur from the influence of the drug upon the motor centers of the spinal cord and upon the respiratory and vaso-motor centers of the medulla, the sensory ganglia being affected before the motor ganglia.

In those cases adapted to the use of aconite, secretion is augmented in adults, but not always in children. The salivary, urinary, and cutaneous secretions are increased, and, when long continued in considerable doses, diarrhœa may be set up. Upon the renal secretion it should be noted that not only the urinary water, but also the urinary solids are increased.

Applied locally or taken internally, it penetrates the tissues very readily, a fact demonstrated by transfusion after toxic effects have been developed and no injurious results accruing to the recipient of the blood from the poisoned animal.

Administration.—The dose of the tincture for adults is from half a drop to a drop every ten or fifteen minutes for an hour, then hourly or more frequently if deemed necessary, until physiological effects are produced or the desired results obtained. To each dose, when fever is attended with high motor excitement, an equal quantity of fluid extract of gelsemium may be added, and given at the same time or alternately with the aconite. When arterial tension has been brought under control, as indicated by the pulse, when the skin and kidneys act freely, along with a perceptible diminution of temperature, the moderate use of quinine is indicated to hold the position gained and to prevent the spread of the inflammatory process to adjacent tissues. Strychnine is here of great value as an adjunct to quinine for the purpose of maintaining the equilibrium of the vascular tension.

Aconitine, the alkaloid, is used hypodermically as well as by the stomach, but the results indicated may be obtained by the use of the tincture in solution, or by the use of a reliable assayed fluid extract, which may be conveniently employed with a little water and dispensed at the bedside in case of emergency.

Therapeutics.—The great importance of aconite as a remedial agent, and the varied uses which have been found for it, makes an attempt to include in a few paragraphs a synopsis of the indications a task which will be incomplete to a degree that is rather discouraging, as it will be impossible to do more than hint at many of the applications. It will be convenient, therefore, to refer to some of the more general diseased conditions in which it is useful, permitting the reader to decide upon other uses from the principles already laid down to govern in a very large number of cases in which aconite might be regarded as suitable. In addition to what has been said of the antagonists should be mentioned the fact that oxygen inhalations or the rectal insufflation of the pure gas will form one of the most appropriate measures to be adopted.

Since, as heretofore mentioned, the presence of fever is the key-note to its exhibition, it will be well to consider the special indications for it in this class of cases; and, as a preliminary, we have to note that the sthenic cases rather than those which are generally classed as asthenic should be the ones ordinarily selected. This leads to the observation that in certain conditions the utmost discrimination will be required or failure will be the result; but it is hoped this matter will be fully brought out in the following remarks, which have been deduced from actual clinical experience, covering a range of cases such as we may assume come under the eye of the general practitioner.

The usual simple or *ephemeral fevers* of childhood, and not infrequently the fevers which attack adults as a result of exposure along with a disordered condition of the stomach, and which are often quite alarming in their onset, are rapidly brought under control by the judicious use of aconite, but to secure the best effects it will be advisable to cover the ground and prevent relapses by a resort to quinine after the activity of circulation has been reduced. The value of this procedure will be particularly noticeable in the treatment of the ordinary forms of amygdalitis, or quinsy, which is often but the local manifestation of a more general disturbance in the economy. Possibly there may be a rheumatic element to contend with, in which case it is best to use sodium salicylate in combination with the aconite; but in many of these cases there is no further complication than a disordered stomach, to which is superadded a cold more or less severe. When aconite fails to counteract the local affection and tumefaction increases, threatening to go on to suppuration, we have in the sulphide of calcium an adjuvant the value of which can not be overestimated. In addition to this, if the patient insists upon local measures, a gargle of potassium chlorate may be added, and will prove of service, but much dependence should not be placed on this so long as there is present an elevated temperature.

As a rule, it may be stated that in all conditions in which we have to deal with fever and local inflammatory action affecting *mucous surfaces*, with the exception of adynamic conditions, aconite is especially indicated. Not alone in amygdalitis, but also in ordinary cases of sore throat, in acute bronchial catarrh, in pneumonia, and in urethral fever, aconite will be found particularly useful. Occasionally it will be found that some persons are susceptible to cold, they are frequent sufferers from sore throat, and there is a relaxed condition of the mucous membrane, and where this local morbid condition is not dependent upon some bronchial or pulmonary affection, the rule heretofore laid down finds an exception, and it will be found that the alternate use of belladonna or its alkaloid atropine may be combined with good effect; and, in fact, the use of small doses of atropine will often be sufficient to correct the trouble temporarily, which should then receive appropriate attention by the internal use of remedies calculated to meet the constitutional tendency. There is a form of febrile *inflammatory sore throat* met with in scarlet fever epidemics in which this method of treatment is especially applicable, but, as they often assume a typhoid character, it will be advisable to combine with the other remedies the use of suitable stimulants.

Acute *bronchial catarrh*, after the subsidence of the more acute symptoms by the exhibition of aconite, will be fully met by the administration of calcium sulphide. if there is but little depression of the vitality, and by quinine in the case of adynamia.

In the treatment of *pneumonia* the same line of medication can be pursued with the best prospects of success, but, owing to the high temperature, the activity of the circulation, and the great restlessness of the patient, other measures will be demanded. Thus, as an adjuvant to the aconite, gelsemium or veratrum must be added, but these remedies are indicated only in the congestive stage. Then, again, something must be done for the cough and irritation set up by the congestion, and we must have recourse to opium in some of its forms. Perhaps morphine will be most satisfactory, if no idiosyncrasy exists, and tablets containing one fiftieth of a grain of the sulphate can be given at intervals of half an hour for several hours, or until the bronchial irritation shows a tendency to subside. Later in this disease, when there is a tendency to spread, in addition to the remedies indicated, it may be advisable to place the patient under the influence of calcium sulphide. *Veratrum* has been mentioned in connection with the treatment of pneumonia, and, as some practitioners prefer it to aconite, it may be well to note the reasons for such preference, and that is, that those who use it allege it to be equally effective and more readily controlled; but this is true only when large doses of aconite are given, and the comparison made with the action and effects of small doses of veratrum.

Scarlet fever during the eruptive stage and the exanthemata generally are favorably influenced by the early use of small doses of aconite, but too much care can not be given to its administration, and, as other drugs are given at certain hours by the clock, aconite, on the contrary, should be given by the thermometer; whenever the fever shows a favorable change, the drug must be given less frequently or discontinued altogether, while the greatest good will follow strict attention to the condition of the secretions, but more especially the condition of the alimentary tract. In the case of *measles*, the development of catarrhal pneumonia, a most unfortunate complication, may almost certainly be prevented by the timely use of aconite.

In *pleurisy* and *peritonitis* aconite is a most valuable remedy, and along with opium and gelsemium, when the case is seen during the early stages, but little fear need be had that either will be fully developed, as, like pneumonia, they may be aborted.

The *catarrhal* form of *croup* is rapidly and favorably influenced by small doses of aconite. *Colds*, which often attack children, accompanied by chilliness, dryness of the skin, and rapid pulse, are often aborted by the timely use of aconite, and this applies even in the absence of an elevated temperature. Ringer has noted that cases of threatened *bronchial asthma* in children, when unaccompanied by coryzal symptoms, but with high temperature, readily respond to aconite.

As coming within the range of fevers, *erysipelas* may be mentioned, and as an important indication for the use of aconite we should note that Ringer has found it of special value in the treatment of the erysipelas sometimes following vaccination. In these cases, as usually seen, aconite has been highly praised; but where aconite can safely be used, pilocarpine may be borne, and, on the whole, the results will be far better with the latter remedy, along with local antiseptic precautions to prevent the spread of the disease. True, the fever is antagonized by aconite, and it may be used with great benefit in the early stage of many cases, or where an attack is threatened, but it seems to be less efficient than pilocarpine in ridding the system of poisonous products which actively contribute to its development.

The employment of aconite in the treatment of *diseases of the heart* is a matter requiring discretion and care throughout the course of its administration, and, as a rule, it will not be advisable to exhibit this drug unless we are certain of the absence of complications which preclude the possibility of expecting benefits, as aconite appeals to the physical rather than the nervous system direct. Shall we give aconite in hypertrophy, even in the absence of valvular lesions? Sometimes this plan may succeed, but the cautious use of trinitrin promises more relief for the patient, although attention should be given to diet and the moral surroundings. There is, however, one peculiar class of cardiac maladies in which aconite is of the greatest value, and that is in the case of palpitations accompanied by nervousness and more or less constant headache occurring at the climacteric. In such cases we may assume that the effect of the remedy is to increase the tension of the capillaries, by which a better condition of the cerebral circulation is established, and we have observed in a number of cases that the taking of small doses for so short a time as a single day has been quite sufficient to relieve a most obstinate headache which had persisted for months. For the relief of pericarditis with pain, which is generally attended with increased activity, along with the administration of aconite, the patient should be advised to assume the recumbent posture, thus relieving the heart from a great deal of unnecessary work.

In addition to the headaches of the menopause, aconite is of signal service in the treatment of inflammatory affections of the *cerebral and spinal meninges* without effusion, although it possesses but little value in the sick headache due to a disordered stomach. In *trifacial neuralgia*, Gubler says it causes the most unpromising cases to yield. In that form of *migraine* which is centric rather than peripheral, aconite has been used *hypodermically*, but cannabis in small doses is much superior. It has also been suggested that those cases of neuralgia in which the pain causes increased secretion of saliva or an abundant flow of tears are best treated by the hypodermic use of aconitine, but in addition to this should be tried the local use of a liniment, or the application of the tincture by friction.

In *menstrual derangements*, when the flow has been suddenly checked, or where exposure to cold has caused congestion of the uterus and annexa, and the arterial tension is increased, aconite may be used with varying degrees of success, although we have in gelsemium, in chloroform, and last, but not least, in cannabis indica, remedies which with the aconite will enable us to relieve the most threatening cases. *Congestive dysmenorrhœa*, as just described, is often a difficult malady to contend with, but is less troublesome when we have learned the value of the drugs named.

Rheumatic neuralgia, which comes on shortly after exposure and which is often due to an over-sensitive condition of the nerves, is benefited by the internal and local use of aconite; but in all cases this drug is not available, as it can not be used with safety in those of lowered vitality. This matter of the over-excitement of the sensory nerves is one that is very attractive; but at this time we can only merely suggest that upon this theory we may account for the value of napelline as a hypnotic in certain cases as well as for the brilliant results noted in connection with the use of the drug in the treatment of the headaches of the climacteric.

Rheumatism comes in here for a share of attention, and the local use of some form of aconite liniment affords us an example of the analgesic effects, although, as a rule, the local use of the faradaic current for five or ten minutes is much better than the daily use of a liniment which is comforting only during the time of its application. Internally, however, in acute attacks of rheumatism, with elevation of the temperature and increased activity of the circulation, and where there is great tenderness of the body with dryness of the skin, aconite promptly checks the progress of the disease in the course of a few hours in uncomplicated cases; but if the physiological action is not manifested upon the skin and other secretions, it is useless to continue the remedy, and other measures must be adopted.

The statement that aconite acts in some respects as a *cholagogue* will not be readily accepted; but we must bear in mind that aconite controls the circulation, promotes the cutaneous and urinary secretion, lessens the work of the liver, and thus, indirectly at least, the function of that organ is improved. Possibly upon this theory, Brunton has recommended full doses for the relief of the vomiting of pregnancy; but if we only desire to affect the mucous membrane of the stomach, cocaine would be preferable.

Having previously referred to some of the *local uses* of aconite, it will be advisable here to repeat in substance what has gone before—viz., that the use of aconite locally is not always efficient, and, when physiological effects are produced without affecting the pain, the remedy should be discontinued, just the same as governs its internal administration. Where it is desired to reach the superficial nerves, in active inflammatory processes, the use of aconite in some form is strongly recommended, as it is believed to favor a return of the healthy condition of the circulation, as pointed out in referring to its use in headaches. If the inflammation is of the active character, the liniment may be used, and, where more chronic, the oleate of the alkaloid will be found available. This suggestion will apply to the treatment of boils, in which it may be used internally as well as locally with advantage. In applying it to bruises and to swollen and painful joints, care must be observed that the skin is unbroken, else aconite poisoning is liable to be set up; and when liniments are ordered containing this poisonous ingredient, a poison label should be attached and plainly marked, "For external use only."

Conclusions.—While considerable has been written upon the subject, there are still some points which have not been brought out sufficiently clear. In view of the remarkable powers of the drug, and with the hope that the matter may be more fully impressed upon the mind of the reader, some remarks should be added in order to emphasize what has just been said. The influence of aconite upon the system enables us in many instances to let it take the place of bleeding, and, properly used, it will be found safe for the purpose of controlling not only the simple cases of fever usually met with, but also the graver forms of inflammatory action with which we are occasionally called upon to contend.

The constant use of the thermometer has already been insisted upon, and, although the drug has a decided influence upon the fever process, we can not expect that it will do more than modify the severity of the specific fevers; that it can not, or at least does not, curtail the natural period of the disease. Knowing, then, the function of the drug, it would be unwise as well as unsafe to push it in the early stages with a view to obtain physiological effects, in the expectation that good would result to the patient. On the contrary, with the exception of the cases of pneumonia, pleurisy, amygdalitis, and the like, which we hope to abort, the long-continued use of aconite in specific fevers has a bad effect. In scarlet fever, measles, and in typhoid especially, which is a lingering disease, the continued use of aconite, even in small doses, has the effect of impairing the vitality of the patient and, consequently, delaying convalescence, and undoubtedly does actually contribute to collapse in the disease just named. But some will say that it has the effect of *strengthening the heart*, because the small or even moderately large doses seem to increase the volume of the pulse, and apparently the power is augmented; but this is merely a temporary effect, and depends upon the fact that the poison is so rapidly taken up by the tissues that the first effect is not felt upon the heart. The vascular tension is promptly modified by the use of aconite, but, after a time, the heart shows that it also suffers from the effects of the poison. In the light of this explanation, we are measurably able to understand the benefits which follow the use of small doses for the relief of a cardiac hypertrophy. The amount of work the heart is compelled to perform is lessened, and accordingly the hypertrophy disappears; but in ordinary medicinal doses only a comparatively small portion reaches the heart muscle, which, it should be remarked, is rather the exception than the rule.

In using aconite for any length of time, or in a critical case, much depends upon the activity of the patient, as, if this is kept up, but little good will be accomplished by the drug; and, as a general rule, it should not be given with other remedies, although other drugs may be given alternately with it.

1910 Arch Street.

REPORT OF
A CASE OF ACUTE DIFFUSE PERITONITIS
FOLLOWING THE USE OF COPIOUS ENEMATA IN ACUTE DYSENTERY.

By R. R. BALL, M.D.,
FIRST LIEUTENANT AND ASSISTANT SURGEON, U. S. ARMY.

On September 7, 1890, I was called to see K. L., aged seven years, suffering with a slight diarrhœa and nausea, with more or less frontal headache. There was no marked increase of temperature, and, regarding it as a case of acute indigestion, I prescribed a few grains of pepsin and soda, thinking that would be sufficient.

Late that afternoon I was again called. She had become more and more uncomfortable. Temperature 102·5° F., skin hot and dry, bowels very loose, the last two stools containing a good deal of mucus and blood. A gentle purge of ol. ricini, with a few drops of tr. op. deod., was then given, and an exclusive boiled-milk diet adopted. The next day, the bowels still moving very frequently, showing blood and mucus each time, and not believing in the opium-and-astringent treatment of acute dysentery, I administered, every three or four hours, an enema, containing a little over half a pint of pure cold water with salicylic acid (one drachm to the pint). These enemata were carefully administered, and had a marked effect in reducing the straining and number of stools *per diem.* The case continued to progress favorably up to September 12th. That morning, about an hour after using the enema, she complained of a good deal of pain over the abdomen. About a pint had been given with a fountain syringe, and I learned on my arrival that the water had not returned, as had been usual. She seemed very restless, the pain greatly increasing, and, no water having returned, the family grew much alarmed and hastily summoned me. It had been about an hour since I had left the patient doing well. I now found her in agony, the knees drawn up, face pinched, screaming when any one approached her abdomen; pulse small, wiry, and rapid; temperature, 104·5° F. The entire abdomen was exquisitely sensitive and greatly distended. The case was alarming, as general peritonitis had evidently set in. I at once ordered two thirds of a grain of acetanilide, to be repeated every hour till skin and temperature responded, and chiefly eight minims of deodorized tincture of opium, to be repeated every two hours till full symptoms of opiumism—contracted pupils, thirteen to sixteen respirations per minute, itching of skin, moist skin, and marked symptoms of drowsiness—were produced. Four ounces of boiled milk to be given every alternate two hours.

I spent that night with the patient, wishing to push the opium to its fullest physiological extent within bounds of safety. After the third dose I had reduced the respirations to thirteen to sixteen in a minute, with all other characteristic points. The patient easily aroused, and was absolutely free from pain. This condition of limited narcosis was then maintained for the following seven consecutive days and nights, the general condition gradually improving. On the seventh day she had so much improved—tenderness very slight, no tympanites, temperature 99°, pulse 90—that I gradually reduced the opium to three or four minims every two to three hours. She then went on to complete recovery.

One point I have failed to mention. On the afternoon when peritonitis had developed and before I was sent for, the mother, fully concurring in the popular error that all would be well if she could "make the bowels move off," had given a second large enema of soap and water.

This now made over a quart of water unaccounted for, as none had returned. For twelve hours previous to the development of peritonitis no urine had been passed. During this night a large quantity of water was passed; judging from the cloths saturated, there must have been much more than a quart. The normal amount in twenty-four hours was about a pint when in health. I was very careful to examine closely whether some of this great quantity of liquid might be from the bowels, but this was clearly disproved.

The question was, and still is, Where did this excessive flow of water come from? The kidneys seemed to have taken on an additional vicarious function for the time being, thus relieving the overtaxed peritoneal cavity and bowels.

Again: Did this enema that had been given escape through some minute unhealed portion of the recently inflamed bowel into the peritoneal cavity, hence the acute peritonitis? Certainly the speedy development of peritonitis not more than an hour afterward lends weight to this supposition. We know that the literature of some cystic ovarian tumors has furnished instances of such profuse kidney excretion following rupture (spontaneous) of such cysts as would render likely this conservative function of the kidneys at times.

Again, the absolute fatality attending bowel perforation in late typhoid is well known, and it is a general axiom that this means collapse and death. Now, in these cases we have as factors the septic condition of the whole system, more especially of the alimentary canal, the prostrated state of the patient, and the contact of the most poisonous and septic of fluids with the peritoneal cavity from the intestinal canal. In the case cited we have a convalescent patient from acute dysentery wherein the whole tract had been daily irrigated with a germicidal solution.

And it is also noted that this quart of solution, which apparently entered the peritoneal cavity, was an antiseptic solution of undoubted power. The question remains, May not the absence of the usual collapse be explained by these various circumstances noted?

Whether this acute peritonitis be regarded as *post hoc* or *propter hoc*, the peculiar sequence of events and their rapidity of development may serve as a warning note against the too reckless use of copious enemata in acute dysentery, the dangers of which have not been dwelt upon in modern treatises on this disease.

Nothing could be more evident throughout the progress of this case than the powerful and controlling influence of opium, pushed to its fullest physiological yet safe point, in acute peritonitis. No tentative doses will do. Under complete opiumism the disease yields rapidly. In this case the bowels regained their tone and acted normally at the end of seven days.

The writer must plead as his only excuse for reporting this case the desire to draw attention to these two points: the possible danger of copious enemata in acute dysentery, and the salutary results of a bold opium treatment in acute peritonitis.

Fort Spokane, Washington, *October 15, 1890.*

Correspondence.

LETTER FROM DUBLIN.

Presentation to Dr. Stack.—Entries at the Dublin Medical Schools.—Presentation to Sir John Nugent, M. D.—Case of Acromegaly.—Koch's Treatment of Tuberculosis.—Death of Dr. Corley.—The Coombe Lying-in Hospital.—Poisoning by Hydrocyanic Acid.

Dublin, *December 17, 1890.*

Last month Dr. Theodore Stack, a leading Dublin dentist, was presented with a portrait of himself in oils, being the gift of his colleagues of the Dental Hospital. The presentation was made in recognition of Dr. Stack's exertions in obtaining funds for a new dental hospital.

The anatomical entries at the Dublin medical schools for the present session show a falling off of fifty-seven, as compared with last year. At the Royal College of Surgeons the decrease was forty-two, at the School of Physic, Trinity College, it was ten, and at the Catholic University it was five. As after the 1st of January next a fifth year has been added to the curriculum, we may confidently expect that the total of entries next winter will show a further falling off in the numbers.

Sir John Nugent, M. D., who has retired from the post of Inspector of Lunatic Asylums in Ireland, was recently presented with a splendid service of plate by the medical and other officers connected with the various Irish asylums in testimony of their esteem and of their regret at his retirement from official life. In the address presented the subscribers tendered him their thanks for his uniform and successful endeavors to promote the interests and well-being not only of the officers and staffs of the asylums, but also of the lunatic poor under his supervision. The plate was the work of Mr. Johnson, of Dublin, and consisted of five large solid silver bowls, exact copies of the celebrated punch bowls belonging to the Exeter Corporation, and now on exhibition at the South Kensington Museum. The bowls, which weigh about two hundred and fifty ounces, are mounted on ebony plinths, on which are silver shields, having the armorial bearings of Sir J. Nugent's family engraved thereon. On the largest bowl is the following: "Presented to Sir John Nugent, M. D., Commissioner of Control and Inspector of Lunatic Asylums in Ireland, by physicians and other friends connected with these institutions, as a token of official respect and personal esteem on his retirement, at the close of forty-three years, from the public service."

A patient suffering from acromegaly has lately been under the treatment of Dr. Joseph Redmond in the Mater Misericordiæ Hospital, and, as details will be published by the Medical Section of the Royal Academy of Medicine in Ireland, I shall not refer to it further, except to make the remark that it is the first case of the disease recorded in Ireland.

Professor Koch's treatment of tuberculosis is the question of the hour. Many of our hospital physicians and surgeons have made hurried visits to Berlin, and more than one have returned without obtaining Koch's fluid for treating cases. Demonstrations of the method have been given at the various hospitals here, and Dr. McKee, curator of the museum at the Royal College of Surgeons, will deliver a lecture on the subject at the college on to-morrow evening. Apparently there seems to be a falling off of the enthusiasm which heralded the announcement of the discovery, and in Austria and other places physicians are not so sanguine as to the efficacy of the fluid as they were. All are agreed that the fluid is a virulent poison and must be used with great discretion. The treatment is on its trial, and time alone will show us its efficacy or failure in tubercular affections. It is probable that we shall find Koch's treatment of utility in scrofulous disease of the joints, in lupus, and in enlarged glands, but I am not very sanguine that it will prove of much benefit even in the first stage of pulmonary phthisis.

Dr. A. H. Corley, an ex-president of the Royal College of Surgeons, died recently in Dublin after two days' illness. The deceased, who was in his fifty-first year, died from diabetes. He held various posts, such as surgeon to a hospital; Fellow and Examiner, Royal University; Professor of Surgery at the College of Surgeons, etc. Although a leading member of the profession when he died, he left his wife and six children badly provided for, and more than one serious illness had made great inroads upon his capital and rendered his life of late uninsurable, while the early age at which he died made it impossible for him to save any sum adequate for the wants of his widow and children. A fund is being formed for the support and maintenance of his family. Medical men do not take sufficient advantage of the benefits of life insurance; and if a man's life is uninsurable he certainly ought to put by an annual sum for his family, so that when death steps in suddenly he need not leave them dependent upon the charity of others.

Dr. J. C. Hoey has been appointed master of the Coombe Lying-in Hospital, Dublin, in the room of Dr. Mason, Jr., whose term of office had ceased. The appointment, which lasts for seven years, is considered a valuable one, and the hospital gives an excellent field for the cultivation of that special branch of the profession. The contest was a close one, Dr. Hoey being successful only by the casting vote of the chairman.

A housekeeper to a medical man in the North of Ireland recently had a narrow escape from being poisoned fatally by hydrocyanic acid. She went into her master's surgery to get some essence of aniseed, but by mistake took about two drachms of dilute hydrocyanic acid. Apomorphine injections, the stomach-pump, and other remedies administered by her employer, who, fortunately, was close at hand when she fell unconscious, restored her to consciousness after five hours. The case is remarkable, as two drachms of dilute hydrocyanic acid (British Pharm.) would be equal to two grains and a half of the pure acid.

The Dietetic Gazette.—It is announced in the December number of the *Gazette* that, beginning with the issue for January, 1891, that journal will be edited by Dr. Simon Baruch, a well-known contributor to medical literature.

THE
NEW YORK MEDICAL JOURNAL,
A Weekly Review of Medicine.
Published by
D. Appleton & Co.
Edited by
Frank P. Foster, M. D.

NEW YORK, SATURDAY, JANUARY 10, 1891.

SUTURE OF THE COSTAL CARTILAGES.

As the result of a severe stab-wound, Dr. Brokaw, of St. Louis, has had occasion to sew up the cut cartilages of the ribs from the fourth to the ninth. The case, as reported in the *Courier of Medicine* for December, is a triumph of emergency surgery. The injury was inflicted with a butcher's knife by a madman actuated by homicidal frenzy. The thoracic wound extended from the third rib to within an inch of the umbilicus, and six costal cartilages on the right side were entirely cut through. The lung was wounded and partially collapsed. A sawing movement and much friction of the cut cartilages upon one another was produced with each respiratory effort. The surgeon decided to suture the cartilages at once, and, in the absence of silver wire, made use of heavy pedicle silk, which answered the purpose admirably. The fragments of the cartilages, from the fourth to the ninth, were thus brought together, a single suture being used for each cartilage. This procedure effectually arrested the sawing movement and friction, and all hæmorrhage was checked by ligatures and gauze packing. The lung was not completely collapsed, probably being stayed up by a number of old pleuritic adhesions that existed laterally. Strips of iodoform gauze about two inches in width were packed as a tampon between the ribs in the interchondral spaces, the ends of the gauze being allowed to extend to the surface between the integumental sutures.

The patient recovered rapidly, although his condition was doubly precarious from the existence of a second wound, that being abdominal and attended with considerable loss of blood and profound shock. The gauze tampon was taken away on the third day, under the strictest antiseptic precautions. The bubbling of air through the chest wound ceased on the eighth day. The silk sutures of the cartilages were not removed until after a month, and one of them was left *in situ* for thirty-eight days, which was also the length of the patient's stay in the hospital.

This unique case of stab wounds of the thorax and abdomen is illustrated by a photogravure taken after convalescence was complete, which indicates that the linear extent of the two wounds, if joined end to end, could not have been much less than twenty inches. If we add to this not only that the abdominal wound was a disemboweling one, the intestines having been almost completely exposed and allowed to trail along the dirty floor of the drug-store into which the patient was carried directly after the cutting, but that over an hour and a half had elapsed after the wounding before the man was brought under the surgeon's care, it will be evident that the results were most conclusive as to the patient's vital powers and as to the surgeon's persistence and thoroughness.

THE WORK OF MEDICAL MISSIONS.

In no part of the world probably has modern medicine made a more profound impression than in the cities of China. The tender and toilful ministry of the clerical missionary often wins respect, but the physician is well-nigh worshiped; his person and work are sacred. "This hospital is safer than a gun-boat," said a British consul at Canton during troublous times. The Rev. E. P. Thwing, M. D., who has made a long journey through the Asiatic countries, finds that a remarkably healthful and uplifting influence flows from the labors of the female physicians and of the native nurses trained by them; it has opened the eyes of the Orientals to the capabilities of women.

One of the ladies of a Chinese family of high position, when asked how she employed her time, replied: "Oh, no, I do not sew or embroider, I can only eat." Dr. Thwing relates an incident of the breaking down of prejudice in consequence of which a lady physician was invited into the interior to attend the mother of Admiral Pang, as follows: "A Chinese admiral, grateful for the restoration of his aged mother to health, gave a gold medal to Dr. Mary Fulton, and for the successful treatment of another lady of the household an additional decoration was ordered. During a stay of a fortnight, ancient etiquette was laid aside, and this American lady and her associate, an English lady missionary, sat with the gentlemen of this aristocratic family at a table served in elegant European style. Continued gifts followed Dr. Fulton after her return to Canton, such as a thousand oranges at a time. A young man from this family-clan has since come down to the Canton Hospital to begin the study of Occidental healing. In this we see an honoring of Western ideas, mingled with a grateful appreciation of the individual physician. Medical service to the blind, the diseased, the injured, the insane even, is directly antidotal of the greedy, mercenary, and tyrannous behavior often shown by foreigners eager to win their point with the Chinese or other Eastern peoples. Heathenism believes in the survival of the fittest and the removal of the helpless from the world. Our hospitals and dispensaries teach a nobler conception of human existence. There are said to be a hundred and nine medical missionaries in China at the present time, and others who are actively preparing to go thither. Thirty-eight of these missionaries are women, and of these, thirty-six are from America.

MINOR PARAGRAPHS.

A SIMPLE REGIMEN IN OBESITY.

The *Journal de la santé* attributes to a medical officer of the French army the latest "cure" for obesity, which is strangely simple in its carrying out. A colonel of his brigade had become so fleshy that it required the help of two men to enable him to mount his horse, and was on the point of retiring from the army, when the surgeon hit upon a dietetic regimen which, for this case at least, served its purpose most handsomely, for the colonel became almost thin under it in the course of a month or two, and about the same time there came along a promotion to the rank of general, all of which would have been impossible without the surgeon's expedient. The form of diet was simply a restriction to one dish at each meal, irrespective of what that dish might be, and, no matter whether the quantity consumed was greater or smaller, it was made to satisfy the desire for food to the full at each meal. No supplementary dishes, such as soups, desserts, or condiments, were allowed; one single dish, and that taken plain, was found to satisfy the appetite much sooner than a variety of dishes, even if the quantity was apparently smaller and on almost an abstemious scale. This regimen was employed also in the case of a lady whose embonpoint threatened too rapid increase, with good results and without any discomfort in the observance of the restrictions. In fact, in one or two instances the reduction of corpulence has seemed to go on rather too rapidly and it has been deemed best to take means for the restoration, in a measure, of that which had been lost. Under this system, as under most others, the excessive imbibition of liquids has to be forbidden, care being taken not to enforce the abstinence from water, especially, to the point where symptoms of circulatory depression arise from insufficiency of volume of the blood in the vessels.

HYPNOTISM.

Before the Medico-legal Society of Chicago, Dr. M. H. Lackerdteen has read a paper on the scientific aspect of medical hypnotism, or treatment by suggestion, the report of which appears in the *Journal of the American Medical Association.* In the discussion of the question, the consensus of opinion was very much against the indiscriminate use of hypnotism by the profession and the laity; and as to the two contentions for hypnotism (first, as a therapeutical agent, and, second, as an aid to psychical research), it was thought that nothing of any value had been deduced from its use, but much harm. Dr. N. Kerr, in the *Deutsche Medizinal-Zeitung*, says of this practice that hypnosis is a departure from health, a diseased state, a true neurosis, embracing the lethargic, cataleptic, and somnambulistic states; that the after-effect is a disturbance of the mental forces and dissipation of nerve energy; and that frequent repetitions are apt to cause deterioration of brain and nerve functions, intellectual decadence, and moral perversions. It has generally been recognized that the dangers of hypnotism are very great. In Russia the matter has been made the subject of legislation restricting its use to the medical fraternity, the presence of medical witnesses being necessary. In Belgium it is restricted to use by medical men, and in no instance can it be applied to girls under eighteen years of age. In France its public exhibition is prohibited, and in the medical department of the army and navy it has been interdicted. It is to be hoped, says Dr. Lackerdteen, that the profession in America will awake to the position and insist upon some sort of legislative action that will limit the use of hypnotism to physicians under certain restrictions, and absolutely prohibit public exhibitions of this dangerous practice.

THE MORTALITY OF NEW YORK IN 1890.

The total deaths in the city of New York during the year just closed were 40,230, a slight increase over the total of 1889, which was 39,583, as well as that of 1888, which was 40,175. The population being estimated at 1,631,230, the rate of mortality is found to be 24·6 to the thousand, as against 25·1 in

1889, when the population was held to be 1,580,000. A most marked falling off in scarlet fever is recorded, the deaths in 1890 being 403, in 1889, 1,239, the number of cases being 2,893 and 8,730, respectively. In diphtheria, also, there was a decline, the deaths in 1890 being 1,256, in 1889 1,685; the cases, 4,142 and 6,289, respectively. Typhoid fever caused 350 deaths, a decrease of 47; the number of cases was 1,079, a decrease of 296. Measles caused 724 deaths, an increase of 254; the number of cases was 8,972, an increase of 2,635. Whooping-cough showed a falling off—namely, 486 as compared with 647 deaths. The deaths by malarial causes were only 174, as compared with 229 in 1889. Small-pox caused two deaths, as against one in 1889. The deaths by bronchitis and pneumonia numbered 1,982 and 4,950, as compared with 1,792 and 4,015 in 1889. Consumption is charged with the heaviest item of mortality, 5,468, as against 5,163 in the previous year. The reported births came quite close to the deaths, being 39,250, a decided increase beyond the total of 37,521 in 1889. The marriages numbered 14,992, while in 1889 they were 14,400.

A MISSIONARY AND HIS SCALPEL.

THE Rev. R. H. Walker, of the Lake Victoria Nyanza mission, in Central Africa, narrates a case where he had to use a knife in order that the native "doctor" should not gain prestige at his and his mission's expense. He says: "I told you how a man named Paulo had been shot in the mouth. I was sent for to see him, and failed to discover the exact position of the bullet. The native doctor was then called in, and he cut a pit under the man's chin and hunted about, but had no success. This happened two months ago. Since then the patient has sent for me several times, continuing to complain of pain, and, although I frequently examined his mouth, no bullet could I find. I fancied that he must have swallowed the missile along with the fragments of his broken teeth. A few days ago I advised poulticing, and yesterday he came to see me, saying that he thought he could feel the bullet. I felt in his mouth and thought I could feel it also. I offered to cut a hole and look for it. He said he would come again. He was afraid of the knife. To this I would not agree, and I then and there cut a hole, which reached something hard. After a time I got hold of it and hauled it out—quite a large piece of iron. It was not quite so thick as some bullets are made, but was longer—a full inch, if not more, in length. I am very glad I got it out eventually and not the native doctor." This worthy missionary was a co-worker with the late Rev. A. M. Mackay, of whom Stanley has said that he was the greatest missionary since Livingstone.

THE TÆNICIDE PROPERTIES OF THE COCOA-NUT.

PROFESSOR PARISI, of Athens, some time since called attention to the tænicide properties of the cocoa-nut when freely ingested. His attention was drawn to the subject from an accidental experience in his own case; it was while he was traveling in Abyssinia that one day he took a considerable quantity of the nut, sufficient to produce an attack of diarrhœa. After a while, much to his surprise, with one of these diarrhœal motions there came away a complete tænia, head and all, and quite dead. After his return home to Athens he made some observations in this line of treatment and reported an almost invariable success. In only one instance did he fail to secure the head. His method was to order the milk and pulp of one cocoa-nut to be taken in the morning, fasting, no purgation or cessation from business being required. In this country Dr. Allison has reported, in the *Medical Age*, a case where the use of *Filix mas*, oil of turpentine, and chloroform had successively failed to effect a complete removal of the parasite, but in which the patient by chance partook of a cocoa-nut and soon after was relieved of a dead tapeworm with its head. Since then he has had occasion to prescribe cocoa-nut in this trouble, and has found it the pleasantest of all the tænicides and one that does not require the administration of a cathartic.

ALLEGED EQUIVALENTS OF THE KOCH LIQUID.

DR. JOSEPHUS CRAFT, of Cleveland, Ohio, calls our attention to his statement, in the *Journal of the American Medical Association* for December 20th, that he has produced a liquid identical with Koch's, and adds that, in order to get the judgment of the profession as to the truth of his statement, he will send enough of it for testing purposes to any competent, fair-minded physician in the United States or Canada, preferably a hospital physician, who will send satisfactory references with his application. Dr. Craft's address is No. 64 Streator Avenue, Cleveland. The newspapers announce that a New York physician thinks he has found a contratuberculous remedy having the same effect essentially as Koch's, but having the advantage of being an inorganic substance easily to be obtained by any physician.

DIABETES AND INSANITY.

DR. SAVAGE has read a paper before the Medical Society of London, an account of which appears in the *British Medical Journal*, on The Connection between Diabetes and Insanity. He concludes that diabetes may arise from local brain disease or injury, and that a similar condition may give rise to insanity; so a similar bodily condition may cause both diabetes and insanity, and in certain states some of the symptoms in diabetes may follow on brain changes without diabetes as a whole being developed. In other cases there may be polyuria or glycosuria. In insanity proper, diabetes is uncommon; diabetes and insanity run together in the same families, and the same holds good with regard to diabetes and epilepsy, the two conditions frequently alternating in the same individual. When diabetes and insanity coincide, the insanity is generally of the melancholic type, and the symptoms of diabetes are modified by the relationship.

PALATINOIDS.

THE *Lancet* makes reference to a new tasteless form of administering nauseous drugs, known by this name. They resemble two tiny watch crystals welded together at their edges. They are made of pure gum and sugar, almost as transparent as glass, such as is used in the manufacture of jujubes. The average weight of one of these envelopes is a trifle more than a grain. They are slippery in the mouth, and are readily dissolved with or without the aid of a draught of water. The contained drug is carried, in most instances, in the form of a loose powder, and is therefore susceptible of speedy absorption.

A UNIQUE CASE OF HEMIANOPSIA.

DR. R. WILLIAMS reports, in the *British Medical Journal* for November 22d, a case of neuro-retinitis in a miner aged forty-two, who had very marked limitations of the fields of vision. He remarks that cases of horizontal hemianopsia are by no means common, but that the loss of the upper half of one field and the lower half of the other renders the present case unique in medical literature, though the possibility of such a condition was suggested by Wilbrans.

ITEMS, ETC.

The Medical Society of the State of New York will hold its eighty-fifth annual meeting in Albany on Tuesday, Wednesday, and Thursday, February 3d, 4th, and 5th, under the presidency of Dr. William Warren Potter, of Buffalo. Besides the president's inaugural address, the programme includes the following titles: Railroad Surgery, by Dr. Clinton B. Herrick, of Troy; A Report of Cases of Injury to the Knee Joint, with Remarks, by Dr. Henry Flood, of Elmira; The Management of Sinuses in Chronic Bone and Joint Diseases, by Dr. V. P. Gibney, of New York; Necrosis of the Ribs complicating Pott's Disease, by Dr. Louis A. Weigel, of Rochester; Brief Notes on Gastrostomy, with the Report of a Successful Case, by Dr. Charles A. Powers, of New York; The Action of Trypsin, Pancreatin, and Pepsin upon Sloughs, Coagula, and Muco-pus, by Dr. Robert T. Morris, of New York; Operative Procedures in Acute General Suppurative Peritonitis, by Dr. W. E. B. Davis, of Birmingham, Ala.; The Progress of Cystoscopy in the Last Three Years, by Dr. Willy Meyer, of New York; A Plea for Rapid Dilatation, Holt's Operation, in the Treatment of Urethral Stricture, by Dr. F. R. Sturgis, of New York; A Case of Imperforate Anus of Eight Weeks' Standing; Operation and Recovery, by Dr. W. Hailes, Jr., of Albany; The Diagnostic Significance of the State of the Pupils, by Dr. E. C. Spitzka, of New York; Three Diagnostic Symptoms of Melancholia (Second Communication), by Dr. Landon Carter Gray, of New York; Hysterical Manifestations Due to Alcoholism, by Dr. H. C. Coe, of New York; Cases of Traumatic Hysteria, by Dr. Henry Hun, of Albany; Insomnia and its Treatment, by Dr. E. N. Brush, of Philadelphia; The Causes of Asthenopia, by Dr. D. B. St. John Roosa, of New York; The Treatment of Detachment of the Retina, by Dr. David Webster, of New York; On the Use of Platinum Instruments in the Extraction of Cataract and in Other Operations upon the Eye, by Dr. E. Gruening, of New York; Contagion from Roller Towels, by Dr. Lucien Howe, of Buffalo; One Thousand Cases of Ocular Headache and the Different States of Refraction connected therewith, by Dr. W. F. Mittendorf, of New York; Catarrh and its Cure, by Dr. O. B. Douglas, of New York; On the Causes of Eczema, by Dr. L. Duncan Bulkley, of New York; Some Points in the Pathogenesis of Aural Vertigo, by Dr. Oren D. Pomeroy, of New York; Certain Hygienic Measures in the Treatment of Catarrhal Affections of the Upper Air-passages, by Dr. F. H. Bosworth, of New York; A Contribution to the Surgical Treatment of Jacksonian Epilepsy; Excision of the Arm Center, by Dr. Edward B. Angell, of Rochester; a Discussion of Appendicitis (The Pathology of Appendicitis, by Dr. Herman Mynter, of Buffalo, and Dr. Arpad G. Gerster, of New York; The Indications for Early Laparotomy in Appendicitis, by Dr. Charles McBurney, of New York, and Dr. William W. Keen, of Philadelphia; The Technique of Operative Interference in Appendicitis, by Dr. Lewis A. Stimson, of New York, and Dr. George R. Fowler, of Brooklyn; The Propriety of and the Indications for the Resection of the Appendix Vermiformis during the Quiescent Stage of Chronic Relapsing Appendicitis, by Dr. Joseph Price, of Philadelphia, and Dr. Robert F. Weir, of New York; The Relation of the Physician and the Surgeon in the Care of Cases of Appendicitis, by Dr. Albert Vander Veer, of Albany); a Discussion on Pelvic Inflammation in Women; its Pathology and its Palliative, Conservative, and Radical Treatment (Introduction, by Dr. Andrew F. Currier, of New York; Pathology, by Dr. A. J. C. Skene, of Brooklyn, and Dr. W. Gill Wylie, of New York; Palliative Treatment, by Dr. C. C. Lee, of New York; Conservative Treatment, by Dr. W. M. Polk, of New York; Radical Treatment, by Dr. Joseph Price, of Philadelphia, and Dr. L. S. McMurtry, of Louisville, Ky.); The Treatment of Posterior Displacements by the Utero-vaginal Ligature, by Dr. H. J. Boldt, of New York; Minor Gynæcological Surgery, by Dr. Maurice J. Lewi, of Albany; The Treatment of Injuries to the Floor of the Vagina, by Dr. Horace T. Hanks, of New York; An Inquiry into our Present Knowledge of the Progress of Myomatous Tumors after (*a*) The Use of the Electric Current, (*b*) Removal of Ovaries and Tubes, (*c*) The Old Method of Treatment by Rest, Intra-uterine Applications, and Ergot, by Dr. James F. W. Ross, of Toronto; My Experience with the Surgical Treatment of Retroflexion and Prolapsus Uteri, by Dr. Paul F. Mundé, of New York; Surgical Treatment of Ectopic Gestation, by Dr. Charles A. L. Reed, of Cincinnati; Some of the Results of Defective Sanitary Arrangements in the Puerperal State, by Dr. James P. Boyd, of Albany; The Management of Tedious Labor, by Dr. Egbert H. Grandin, of New York; A Report of Four Cases of Cancer of the Clitoris where Clitoridectomy was performed, by Dr. Franklin Townsend, Jr., of Albany; The Emotional Element; the Puerperal Period, by Dr. Adam H. Wright, of Toronto; a Discussion on Pulmonary Tuberculosis (History, by Dr. H. R. Hopkins, of Buffalo; Ætiology and Pathology, by Dr. Heneage Gibbes, of Ann Arbor, Mich.; Diagnosis and Prognosis, by Dr. A. L. Loomis, of New York; Manifestation in the Upper Air Tract and Special Treatment thereof, by Dr. John O. Roe, of Rochester; Treatment, including Prophylaxis, as related to Climate, by Dr. Samuel B. Ward, of Albany; Treatment, as related to Therapeutics, including Koch's Method, by Dr. E. L. Shurly, of Detroit); Koch's Lymph and Tuberculosis, and Therapeutical Notes on Acute Respiratory Diseases, by Dr. A. Jacobi, of New York; Lobar Pneumonia with the Production of Connective Tissue in the Air Spaces, by Dr. Francis Delafield, of New York; The Treatment of Gall Stones, by Dr. William W. Seymour, of Troy; The Treatment of Itching, by Dr. Edward B. Bronson, of New York; Croupous Rhinitis, by Dr. Frank H. Potter, of Buffalo; The Correction of Angular Deformities of the Nose by a Subcutaneous Operation, by Dr. John O. Roe, of Rochester; A Case of Pemphigus, by Dr. H. R. Hopkins, of Buffalo; The Treatment of Pigmentary and Vascular Nævi, by Dr. George H. Fox, of New York; The Relation of Physicians to Boards of Health, by Dr. Lewis Balch, of Albany; The Necessity of an Amendment in the Laws governing Medical Evidence in Malpractice Suits, by Dr. R. J. Wilding, of Malone; The Present Status of the Proposed Law to regulate the Practice of Embalming Human Dead Bodies, by Dr. A. Walter Suiter, of Herkimer; The Unrestricted Evil of Prostitution, by Dr. Andrew F. Currier, of New York; A Case of Scarlet Fever with Vesicular Eruption, by Dr. F. C. Curtis, of Albany; Intestinal Obstruction; Report of Cases, by Dr. J. H. Glass, of Utica; and papers by Dr. William S. Ely, of Rochester, and Dr. Clarence C. Rice, of New York.

Hyrtl's Eightieth Birthday.—Professor Joseph Hyrtl, the eminent Viennese anatomist, passed his eightieth birthday on December 7th, and was the recipient of numerous congratulatory messages. The Landtag of Austria addressed him as being equally popular as a public benefactor as famed in the ranks of teachers of anatomy. Hyrtl is the founder of two orphanages at Moedling, a suburb of Vienna. He is also noted as a linguist, having a fluent knowledge of ten modern languages, and he is credited with the ability to make an extemporaneous speech in Latin.

The American Association for the Study and Cure of Inebriety.—At the meeting of Wednesday evening, the 7th inst., the programme included A Résumé of the Latest Facts on the Pathology of Chronic Alcoholism and Inebriety, also A Synopsis of the Mason Prize Essay, by Dr. George T. Kemp, of Brooklyn; The Action of Alcohol on the Throat, by Dr. G. B. Hope, of New York; The Brain Palsies from Alcohol, by Dr. T. L. Wright, of Bellefontaine, O.; and the exhibition of microphotographic illustrations of the effects of alcohol on the blood and the tissues, by Dr. Ephraim Cutter, of New York.

Dr. Taylor's and Dr. Van Gieson's Article on Prurigo.—By an error, several of the illustrations to this article were misplaced in our last issue. We would suggest to our subscribers that, when they have their numbers bound, they instruct the binder that the six pages inserted between page 14 and page 15 should immediately precede page 1.

The Death of Dr. Gideon B. Perry, of Brooklyn, occurred on December 30th. He was a native of Rhode Island and an alumnus of the Medical Department of the University of the City of New York, of the class of 1851. His death took place somewhat unexpectedly from heart failure, although his health had been noticeably impaired during the past year. He was sixty-four years old.

The Death of Dr. Joseph A. Carreau, of Brooklyn, took place on December 30th. He was a French Canadian and a graduate of the

Montreal College of Physicians and Surgeons. He was a member of the Medical Society of the County of Kings and of other organizations. He was thirty-nine years old.

Changes of Address.—Dr. Kingman B. Page, to No. 70 East One Hundred and Twentieth Street; Dr. Franz Torek, to No. 164 East Seventy-ninth Street.

Society Meetings for the Coming Week:

MONDAY, *January 12th:* New York Academy of Medicine (Section in Surgery); New York Ophthalmological Society (private); Lenox Medical and Surgical Society (private); New York Medico-historical Society (private); New York Academy of Sciences (Section in Chemistry and Technology); Boston Society for Medical Improvement (annual); Gynæcological Society of Boston; Burlington, Vt., Medical and Surgical Club; Norwalk, Conn., Medical Society (private); Baltimore Medical Association.

TUESDAY, *January 13th:* New York Medical Union (private—election); Medical Societies of the Counties of Chautauqua (semi-annual), Chenango (annual), Clinton (annual—Plattsburgh), Erie (annual—Buffalo), Genesee (semi-annual—Batavia), Greene (quarterly), Jefferson (annual—Watertown), Livingston (semi-annual), Madison (semi-annual), Oneida (semi-annual—Rome), Onondaga (semi-annual—Syracuse), Ontario (quarterly), Oswego (semi-annual—Oswego), St. Lawrence (annual), Schenectady (annual—Schenectady), Schuyler (annual), Steuben (semi-annual), Tioga (annual—Owego), Wayne (semi-annual), and Yates (semi-annual), N. Y.; Norfolk, Mass., District Medical Society (Hyde Park); Newark, N. J., and Trenton (private), N. J., Medical Associations; Baltimore Gynæcological and Obstetrical Society.

WEDNESDAY, *January 14th:* New York Surgical Society; New York Pathological Society (annual); American Microscopical Society of the City of New York; Medical Societies of the Counties of Albany and Dutchess (annual—Poughkeepsie), N. Y.; Tri-States Medical Association (Port Jervis, N. Y.); Pittsfield, Mass., Medical Association (private); Hampshire, Mass. (quarterly—Northampton), and Worcester, Mass. (Worcester), District Medical Societies; Bennington, Vt., County, and Hoosick, N. Y., Medical Societies (annual—Arlington, Vt.); Kansas City Ophthalmological and Otological Society; Philadelphia County Medical Society.

THURSDAY, *January 15th:* New York Academy of Medicine; Brooklyn Surgical Society; New Bedford, Mass., Society for Medical Improvement (private).

FRIDAY, *January 16th:* New York Academy of Medicine (Section in Orthopædic Surgery); Baltimore Clinical Society; Chicago Gynæcological Society.

SATURDAY, *January 17th:* Clinical Society of the New York Post-graduate Medical School and Hospital.

Answers to Correspondents:

No. 343.—We think it perfectly allowable for a physician to notify his professional brethren that he is about to give up general practice and restrict himself to a certain specialty.

Letters to the Editor.

PLATES FOR INTESTINAL ANASTOMOSIS.

TOLEDO, OHIO, *December 26, 1890.*

To the Editor of the New York Medical Journal:

SIR: In the issue of December 20th I note a successful case of jejuno ileostomy with Senn's plates by T. H. Russell, M. D. Dr. Russell concludes his article by the following: "My experience in this case and in another in which I performed gastro-enterostomy with decalcified bone plates for cancerous stenosis of the pylorus convinces me that the bone plates are much to be preferred to the various catgut (rings and mats) and all other substitutes which have been suggested. They are admirably adapted for the purpose and need no improvement."

I congratulate the doctor and his patient on such a fortunate termination of the case, but his sweeping conclusions do not suit everybody, especially when communicated through a widely circulated journal. In the first place, "my experience" (Dr. Russell's) seems to consist of all of two cases, all done with decalcified bone plates, and the inference reasonably drawn is that he never used any other. It would appear to be a stretch of imagination to conclude from just two cases that these plates are much to be preferred to *all other substitutes*, and to sweep away all other aids to intestinal anastomosis even without the sign of a trial. The same progressive sentiment is carried out in the last assertion, where the doctor satisfactorily says "they . . . need no improvement." For the last sentence the doctor, perhaps, should not be condemned, as he has, no doubt, thrown all his "mite" in just two cases with one plate. "They need no improvement" is not human, for everything that is human is progressive, and nothing progresses without improvement, accompanied also by error. I have about one hundred and seventy-five recorded experiments on dogs done during the past three years, and most of these were for some form of intestinal anastomosis. I have used all known plates and rings but one. The gelatin plate introduced by Dr. Siminson, of Pittsville, Wis., and, I understand, simultaneously by Dr. Shively, of New York, I have not used. I have used Professor Senn's plates. Dr. Brokaw's segmented rubber ring, Dr. Matas's solid catgut ring, Dr. Davis's catgut mats, and Dr. Abbe's catgut rings successfully. Months before I knew cartilage had been used I tried and abandoned it. Dr. Stam, of Fremont, Ohio, independently and originally used the cartilage plate with success. With me, dogs occasionally died from too rapid absorption of the cartilage plate; hence I ceased employing it. During the past year I introduced two new plates for intestinal anastomosis. One is the rawhide and the other is the segmented rubber plate, and dozens of successful operations have demonstrated their *utility, convenient accessibility, cheapness, and ease of construction.* I would call Dr. Russell's attention to these plates, and especially to the segmented rubber plate, and hope the communication will reach him before he writes again, for if the doctor ever gets fully acquainted with the segmented rubber plates he will, no doubt, pen the same pleasing democratic sentence, "they need no improvement." Did the doctor ever think that it required almost two weeks to prepare Professor Senn's decalcified perforated bone plates? I am also informed that these same plates are sold for one dollar a pair. To do a hundred operations on a hundred dogs would cost, at that rate, about a hundred dollars.

Your humble servant's segmented rubber plate can be made out of an Esmarch, or the band on a pocket diary and some catgut, in about thirty minutes for about five cents. Most of my plates were made of rubber bands three inches long, three quarters of an inch wide, and a sixteenth of an inch thick. For the catgut ring I used either sheep-skin or rawhide strands. The rubber bands and ring were held together by four catgut sutures. Six needles attached to six linen threads completed the plate. The average cost of such a plate was three cents. The test of its utility is success in application. In operating it is easy and convenient to use. Plates are superior to rings. The segmented rubber plate possesses all the advantages of any plate and, I think, a little more. Its material is cheap and accessible. It is quickly made and convenient to use. It coaptates the largest possible amount of serous surface, and holds in continuous approximation the walls of the intestines as long as desired. It is suitably absorbable—in fact, so delicately adapted to the work of intestinal anastomosis that it can be made to suit the character of the alimentary secretions in any part of the canal. The suitability of the plate becomes apparent when one can predetermine the time the plate will remain intact by the quantity and quality of the material composing the ring. The plate does not yield its approximating power until it entirely breaks down by the dissolution of the material (sheep skin, rawhide strands, or catgut) composing the ring. The segmented rubber plate produces uniform, even, equable pressure in all directions on the living tissue. No jutting prominences or uneven projections are exposed on the plate to cause sloughing of the parts and gangrene of the gut wall, producing fæcal fistulæ and inviting the dreaded demon peritonitis to end the scene.

The rubber plate produces excellent mechanical and physiological rest, which is the essential for proper cell proliferation and definite healing. Also, experiments positively demonstrate that a plate for intestinal anastomosis must last intact and give substantial coaptation to the parts for from four to six days. The reason for this is that peritoneal plastic exudates are absolutely indefinite in time of formation. The exudate may appear in a few hours or be delayed more than a day. One can make the rubber plate last two weeks and do no harm by its pressure or presence in the gut. I have had plates in dogs for forty-nine days, and they only produced slight ulceration. Senn's plates quickly yield by dissolution at the edges, and thus decrease their surface of approximation, while the rubber plate holds the entire coaptated surface in approximation from beginning to end. A large coaptating surface is the best barrier against fæcal fistulæ. It may be suggested that useful things are those which have the capacity to be applied to man's service at any desired moment, and also that they will completely and perfectly accomplish the object of their application. The rubber plate fulfills both requirements.

The doctor will observe that he has stepped on toes with corns on them. The result is a squeak in the form of the foregoing remarks. However, I hope Dr. Russell will be well and happy after reading this little communication, and that all the patients on whom he performs intestinal anastomosis will "need no improvement," though I suggest it is wise to make a large artificial fistula, for it will occasionally contract from a fifth to a third of its original size in about two months after the operation.

F. B. Robinson, M. D.

THE TREATMENT OF ABORTION.

Seaton, Ill., *December 25, 1890.*

To the Editor of the New York Medical Journal:

Sir: From the reading of Dr. Whitaker's letter in last week's Journal, it seems I owe Professor Thomas an apology, which I hasten to make.

In my letter, desiring to be as brief and pointed as possible, I avoided all discussion and needless verbiage, and, in using the words *classical*, *efficient*, and *sufficiently dogmatical*, I thought I was using legitimate language. As to *scoring* Dr. Thomas, I had no such thought. If my language is so understood, I beg his pardon.

By *classical* I meant that the treatment of abortion with the tampon was now the generally accepted and approved method of treatment.

Efficient I used in its direct and plain sense—and meant it in no ironical way.

Dogmatical I used as the antithesis of *doubt;* and used it especially in reference to the following sentences: "One great danger in abortion is hæmorrhage, and the indication is to stop that hæmorrhage. This is the *one* and *only indication* to be fulfilled in the beginning, and when you have done this thoroughly you have done your whole duty to your patient."

The positiveness with which Professor Thomas states his views is one of the chief beauties of his teaching. One can not fail to understand him, whether he accepts his views or not.

I expected my method to meet with criticism. I gave it for what it was worth. If it proves as efficient in others' hands as in mine, good will be accomplished.

In my remarks I neglected to say that in primiparæ it could rarely be used. As to the rest, I have not one word to take back.

Remember, gentlemen, you can not practice medicine by the multiplication table, as J. Adams Allen says.

Yours truly, Thomas A. Elder, M. D.

THE SO-CALLED "HYGIENIC TREATMENT."

Willow Springs, Mo., *December 29, 1890.*

To the Editor of the New York Medical Journal:

Sir: Will you be kind enough, not to me, but to the public, to publish the so-called "hygienic treatment" that is being sold for four dollars to an individual or a family, and a pledge or oath of secrecy required? It is simply the use of milk-warm water injected into the bowels with a common household syringe. The owner of the secret, Wilford Hall, of New York, maintains that it is almost a panacea. He uses from a quart to a half-gallon or more of warm water, and thoroughly rinses the colon and rectum, and continues it twice or thrice a week until the inside of the individual is "sudzed" out. A number to my knowing have, as they say, received great benefit from its use. The foregoing is the sum and substance of the whole book he sells as containing the secret. I think, whether it is valuable or not, it ought to be published, as he has made enough off the people, and he, as he is a minister and certainly a philanthropist, should not be loath to have his "great discovery" given to the world. He has no pledge from me, and therefore I am free to publish it.

S. J. Daily, M. D.

Proceedings of Societies.

NEW YORK NEUROLOGICAL SOCIETY.

Meeting of December 2, 1890.

Dr. L. C. Gray in the Chair.

Specimens of Pachymeningitis Interna Hæmorrhagica.—Dr. F. Ferguson presented three specimens of this condition. After giving the histories in detail, he stated that they represented only a small part of a considerable number which he trusted he should be allowed to bring before the society on some future occasion, when he proposed to go more fully into the subject, and give the conclusions he had drawn from a study of his cases.

The Pathological Anatomy of Tic Douloureux.—This was the subject of a paper by Dr. C. L. Dana. He said that inveterate trigeminal neuralgias were usually caused by local disease—such as bony tumors, aneurysms, or syphilitic exudations—but the ordinary cases of tic douloureux, occurring after middle life, affecting chiefly the second branch of the trigeminus, were not due to such causes. Little was known of its anatomy, it being generally believed that there was no special change in the nerve or its centers, and that the disease was a neurosis. Anstie was of the opinion that tic and other chronic neuralgias were due to atrophic changes in the root and sensory ganglia. Dr. De Schweinitz had recently reported one case in which he had found evidence of some degenerative inflammation in the nerve. Recently the Gasserian ganglion removed in a case of tic had been found to show degenerative atrophy. The author was confident that neuritis and degenerative changes in the nerve were not the usual and ordinary conditions in tic douloureux, for in almost all of the cases, no matter how old, no permanent anæsthesia occurred. On the other hand, in cases of progressive trigeminal anæsthesia, due to degenerative neuritis, there had been but little pain. The question arose, therefore, whether there was any tangible cause of the condition. The author's proposition was that many cases were due to an obliterating arteritis of the nutrient vessels of the nerve. His reasons for these views were: 1. That the disease occurred only at a time of life when degenerative changes in the arteries began. 2. That it affected chiefly and primarily one of the terminal branches of the internal maxillary. If it extended or recurred, it involved the inferior dental. It rarely affected seriously the supra-orbital nerve, which was supplied by a branch of the internal carotid. Hence the disease followed a certain fixed vascular distribution. 3. That he had examined four superior maxillary nerves, removed in typical cases of tic douloureux; in none were there any noteworthy changes in the nerves. In three of them striking evidence of arterial disease was found. In the fourth case no blood-vessel was present in the specimen. 4. The view that an obliterating arteritis was a factor in this disease was strengthened by therapeutical experience. Nitroglycerin would sometimes relieve pain instantly and prevent a return for a long period of time. Aconite, which was so useful in this disease, also lowered blood tension, while potassium iodide, which sometimes favorably modified arterial disease, was occasionally useful in tic. 5. That there was unquestionable evidence that removal of the peripheral nerves sometimes cured tic entirely, and hence the disease was peripheral, and due to some local peripheral irritation. 6. Certain authors had recently stated that by a new method of injection they had been able to discover a closer and more extensive relationship between the nerve trunks and blood-vessels than had hitherto been known, and they suggested in their conclusions that disturbances in blood supply might be a serious factor in causing neuralgia.

The author then gave the histories of a number of cases which he considered typically corroborative of his theory. He adduced positive facts that the trigeminus and its roots, and even nuclei and deep roots, were not diseased even in old and typical cases. In all cases where the vessels were examined striking disease was found to be present. Circumstantial evidence was found by therapeutic experiment, and the general ætiology and anatomical distribution of the vessels and of the pains. His argument, he said, was defective in that he had not examined the infra-orbital arteries of healthy persons of from forty to sixty years of age. But this was not much of a defect for the reason that with obliterating arteritis there must be some specific vulnerability of the nerve centers. At present it seemed to the author that it would be pretty safe for him to assert that most of the typical cases of tic douloureux occurring after middle life were due to an obliterating arteritis of the infra-orbital or inferior dental artery, terminal branches of the external carotid, plus some peculiar vulnerability of the central nervous system.

In reply to a question by Dr. Ferguson, Dr. Dana said that he had not been aware of the existence of any renal symptoms or of any changes in the temporal or renal arteries in any of the cases he had mentioned. He thought that in such typical cases of chronic neuralgias—as, for instance, sciatica—evidences of arterial changes would be found if sought for.

The President thought the theory that Dr. Dana had advanced well worthy of consideration. No doubt nervous phenomena were met with in which great pain was present, but which led to no changes in the nerve bundles.

Dr. Dana said that he had been struck with the effect produced by the exhibition of nitroglycerin in these cases. This drug was not an anodyne, but its action was essentially upon the circulation.

A New System of Therapeutic Administration of Static Electricity.—Dr. William J. Morton read a paper with this title. His new system comprised the development by an influence machine of a rapidly interrupted and graduated current by means of a circuit-breaker introduced into a circuit with and without condensers, and in the medical application of this current without and within the human body by moistened sponge or other electrodes, just as in the case of the ordinary galvanic and faradaic currents. It involved the removal of the spark, in itself more or less disagreeable and painful, and often difficult to localize, especially about the face and neck, away from the patient's body, and yet retained all the physiological effects of the kinetic or current part of the circuit. The spark was no longer a direct feature of the administration; it occurred at some distant part of the necessarily closed circuit, and in modified form now became mainly a regulator for timing the discharge of the equalizing potentials. The circuit-breaker consisted of a pair of metallic ball electrodes, introduced at any point of the circuit, having a narrow air space between the balls; the circuit "made" when a small spark overcame the resistance of the intervening air, and "broke" when it failed to do so, and the current was due to rapidly successive equalizations of the differences of potential of oppositely charged condensers, whether prime conductors or with the addition of Leyden jars. The circuit-breaker served (1) to afford time, infinitely brief, to the prime conductors and condensers if used to charge; (2) to regulate the frequency of the discharge and collaterally the frequency of the succession of transient currents so that their aggregate might be classed as a steady current; (3) to determine the strength of the current. This latter might be varied at will and with the utmost nicety from a just perceptible to a most powerful effect. The spark circuit breaker practically represented the vibrator in the primary of an induction coil, the specific inductive capacity of the air replacing the spring and its magnetic attractability. In describing the physical properties of the franklinic interrupted current the author said that it was neither a sudden and transient form, spark, or shock, nor an ineffective continuous flow, but a succession of relatively small sudden discharges. A single spark would produce but a single contraction instantly recovered from, a continuous flow no effect. The franklinic interrupted current produced the effect of physiological tetanus. It therefore stood distinct and by itself as capable of producing a result unattainable by either the galvanic or the faradaic current. Applied to a motor point, the franklinic interrupted current produced most vivid and persistent muscular contraction with a minimum of pain; applied farther back on the trunk of a motor nerve, it threw large groups of muscles into contraction. The contraction was peculiarly painless as compared with that of faradaic coils, and the influence was remarkably diffusive. Accompanying a contraction of a large group of muscles was a peculiar sensation of lightness and buoyancy of the member. It was applicable to every form of muscular paralysis, for there was no practical stimulus to nerve and muscle except the electric, and none more energetic than this form of it. Its effects upon the Hallerian irritability of the muscular tissue included an effect upon the lymphatics, and to this might doubtless be referred many clinical results of relief, as in lumbago, and all forms of muscular rheumatism, subacute and chronic rheumatic affections of joints, ovarian or pelvic pain, sciatica or other neuralgias. One of the characteristics of this current was its power of relieving pain. Gynæcologically, this system of conveying the current within the cavities of the body opened out a wide and promising field of clinical results. From a very considerable experience, the author was satisfied that this current penetrated more deeply into the human body than did that of the galvanic. In conclusion, the new points brought forward were: 1. The generalizing of what the author had announced as an isolated fact in 1881, that a regulated interruption in the otherwise inoperative circuit of a Holtz machine would produce in another part a current adapted to electro-therapeutic practice. This current was now designated the franklinic interrupted current. It included the adaptation of the parts of a Holtz machine to produce the results. 2 A new electrode combining this current with the various terminals. 3. The practice of introducing franklinic electricity in current form into the interior cavities of the human body.

Dr. Dana thought that the author of the paper was to be congratulated upon the originality and value of his method. A good deal could be said in corroboration as to the value of the static current. If he must criticise, he thought that in testing for the reaction of degeneration the static current stood in the same relation as the faradaic, and that the response was last to the galvanic current. If Dr. Morton had made any physiological experiments which disproved this, the speaker would be glad to know it. He thought that they all regretted the statement made as to the penetrating power of this current, or rather that it had been made without proof being adduced. His own experience would warrant the conclusion that the static was by no means as penetrating as the galvanic current.

Dr. A. H. Goelet said that, with only limited experience with the static method, he thought that it might be employed with advantage where the object was to produce marked muscular contractions without the pain to which the faradaic too often gave rise.

The President said that he had as yet failed to see the advantages which the static current had over the galvanic, or at least the galvanic in combination with the faradaic. The machine for its administration was very costly and difficult to learn in all of its modifications. While there might be points in which it might be more advantageously employed than the faradaic machine, he could not see how this was true in reference to the galvanic. In many cases he had employed galvanic electricity in ovarian troubles with marked success, in which the results were indubitable. He did not think that this could be said of the static machine. He did not wish to be considered captious in his criticism, for he made use of the static machine in his office, but would merely ask Dr. Morton wherein lay the alleged advantages.

Dr. Morton said that he had purposely refrained from alluding to static electricity as a diagnostic agent in testing the reaction of degeneration, but as to its penetrability he had produced nausea by an application to the back of the neck, and had produced contractions in sets of muscles by the current applied over a nerve trunk. Applied to a motor point, the contractions were, of course, marked. He would like to know if some one could give any further demonstration that would show a deeper penetration by the galvanic current. As an analgesic he thought that a series of test cases would demonstrate that it had equal merits with the galvanic current, and that it ought to take average working rank in electro-therapeutics. He thought that static electricity would be better appreciated if the subject was more thoroughly understood.

Homonymous Hemiopic Hallucinations.—Dr. Frederick Peterson read a paper with this title. (To be published.)

SOCIETY OF THE ALUMNI OF BELLEVUE HOSPITAL.

Meeting of October 1, 1890.

The President, Dr. Charles Phelps, in the Chair.

A Case of Reflex Epilepsy, the Result of Herpes Zoster.—Dr. J. M. Byron presented a report on this subject. (See page 36.)

A Case of Perityphlitis, in which a diagnosis of fæcal abscess from rupture of the appendix had been made, was reported by Dr. R. J. Carlisle. (See page 37.)

In answer to questions from the president, Dr. Carlisle said that the abscess was separated from the peritoneal cavity by adhesions, and the great distention of the intestine prevented him from actually seeing the perforation. The greenish-yellow pus which was evacuated had a fæcal odor, but no fæcal matter was observed.

Dr. Robert Morris did not think from the report that perforation had occurred. After the evacuation of pus from such an abscess, a fæcal fistula was almost invariably present for some time, but a fæcal odor did not necessarily indicate perforation. He desired to call attention to the use of peroxide of hydrogen in these cases for the purpose of sterilizing the abscess cavity, whether located within or without the cavity of the peritonæum. The peroxide of hydrogen was to be injected in successive portions, waiting a little after each injection until the foaming had subsided. In this way the cavity could be made absolutely aseptic, and after this it was safe to remove the appendix, or even break down the barrier formed by the adhesions, and continue the search for other collections of pus.

Dr. Parker Syms considered that Dr. Carlisle's diagnosis was correct; but there were, unfortunately, many cases in which the diagnosis was very obscure. It was not uncommon to mistake a case of typhoid fever for an appendicitis; and he had been called upon quite recently for the purpose of operating in a case in which the attending physician had found a well-marked tumor in the ileo-cæcal region, with exquisite tenderness, associated with constipation. Upon his arrival, the speaker had found that the free operation of a cathartic had caused the disappearance of the tumor, and the case was evidently one of tabes mesenterica. He had just operated in a case which was quite similar to the one just reported, except that it had extended over a longer period. The patient was a woman, about forty years of age, who three years previously had had an abscess, which had been incised just above Poupart's ligament, and which had continued to discharge for about a year. Three weeks ago there had been a second attack, accompanied by the usual symptoms of appendicitis, and a week later the speaker had found her with a temperature of 102° F. and a pulse indicating sepsis, but with no signs of tumor, although the abdominal walls were particularly favorable to such an examination. He had usually found that the evidence of the presence of a tumor in these cases greatly exaggerated its size, owing to the agglutination of the intestines and the presence of much exudation. The operation in this instance was deferred until the day before the meeting, when a tumor, covered with reddened skin, was found quite overhanging the fold of the groin. The tumor was tympanitic, like a hernial sac containing intestine, but it had proved to be, as was expected, a tympanitic abscess. It was situated outside of the peritoneal cavity. The operation consisted in making an incision long enough to admit of the introduction of the hand, so as to protect the intestine, while a posterior opening was made just above the crest of the ilium, and a drainage-tube inserted. Iodoform gauze was packed around the tube. He wished to lay special stress upon the question of drainage in these cases, and to heartily recommend the method of posterior drainage, which had been just described, and which had been introduced by Dr. Frank Hartley. These abscess cavities soon became tortuous and difficult to drain by the usual method, which necessarily acted by capillary attraction and against the force of gravitation. In another case, which he had seen a few weeks ago, a boy, who had had an attack of cholera morbus following the ingestion of unripe fruit, had been attacked a week later, and two days before the speaker saw him, by the symptoms of appendicitis. There was a well-defined tumor, with a point of tenderness situated as usual a little outside of a line drawn from the umbilicus to the anterior spine of the ilium; the pulse was 120, the temperature was between 101° and 102°, and the countenance had already presented the characteristic expression found frequently in these cases at a comparatively early period. He had been unable to pass his urine for two days. On the following day, at the time of operation, the bladder was still paralyzed; the pulse was 120 and of good quality, but the temperature, strangely enough, had fallen to 97°. A simple laparotomy through the peritonæum was performed, and, on tearing through the deeply situated mass of adherent intestines, two small pieces of oyster-shell were found, together with a perforation in the appendix large enough to admit the finger. Posterior drainage was secured, as before described, and provisional sutures were introduced. The night following the operation the patient had begun to pass his urine voluntarily, and the case had progressed favorably. One point of interest in the subsequent history of the case was an attack of severe vomiting of a projectile character, lasting for many hours, and finally relieved spontaneously. It was evidently symptomatic of a temporary intestinal obstruction caused by the formation of intestinal adhesions.

Dr. Hermann M. Biggs also agreed with Dr. Carlisle's diagnosis, for, in a pathological experience comprising about twenty to twenty-five cases of this kind, he had never seen a localized abscess without perforation through the appendix or cæcum. The absence of any marked rise of temperature in a large proportion of these cases, he thought, was an element in diagnosis which had not received the attention that it deserved. In very many of the cases which had come under his observation the temperature had not been usually higher than 101° F.; occasionally it had reached 102°, and in some instances it had even been below 100°. Only the week before he had seen a case of general peritonitis following a localized abscess with perforation of the appendix in which the temperature had remained below 101°. The case had been seen repeatedly by several surgeons, who had advised against operation; but all the time the patient's pulse was of a very bad character. He wished to call particular attention to this last observation, for he believed that in these cases of perforating appendicitis the characteristic and important symptom was the bad character of the pulse, which was all the more remarkable when considered in connection with the slight elevation of temperature.

Dr. W. E. Porter alluded to a case, seen in Dr. Wylie's service at Bellevue Hospital, where a child, having a temperature ranging from 99·5° to 101° and suffering from general abdominal pain, had been allowed to sink into an extremely dangerous condition before the parents would consent to an operation. When the operation was performed, a general peritonitis, with a gangrenous and perforated appendix, had been found, together with a concretion which had escaped into the cavity. He had seen last summer another case which was very similar to that reported this evening. In this case also the intestinal distention had been so great that the appendix could not be found, and the pus had had a distinct fæcal odor. The adhesions were not broken up, but the cavity was thoroughly washed out and an opening left for drainage, which was still further facilitated by keeping the patient on his left side. The drainage had been very satisfactory, and the wound had completely healed at the time of the patient's discharge, three or four weeks later. There had been only a very slight induration remaining, and he had appeared perfectly well, but he had been warned against any great exertion. Notwithstanding this, he had indulged in a game of foot-ball on the following day, and about a week later had returned to the hospital with the same train of symptoms which he had originally presented. A second opening had been made and the same condition was found, but the peritoneal cavity had not been involved, and the boy had been discharged cured about three weeks subsequently, and had remained perfectly well ever since.

Dr. Syms could not understand how an appendicitis could be produced in so short a time, even by violent exercise, and he thought that the correct explanation of the return of the trouble in this case was to be found in defective drainage of the original cavity, which had given rise to a secondary collection of pus and a recurrence of the acute symptoms.

Dr. W. R. Ballou referred to a case of appendicitis which had come to him with a history pointing to a mural abscess following traumatism; but the subsequent progress of the case had shown that the traumatism was apparently only a coincidence. The patient, a man eighteen years of age, had stated that he had been struck over the ilio-cæcal region with a hair pillow a few days previously. His temperature was 99·5°, and deep pressure over this region caused considerable pain; but there were no other symptoms. He had passed out of sight for four days, and at the end of that time there was a distinct and very painful mass, with a corresponding area of dullness; general peritonitis had developed, and he was suffering from shock. Dr. Hotchkiss, who had been called in before the speaker's arrival, had operated with the assistance of the latter. A large abscess, connected with the cæcum or appendix, was evacuated, and a concretion of about the size of two ordinary beans removed. The patient had died, after ten days, from septicæmic diarrhœa. The case was of interest on account of the difficulty in making an early diagnosis.

Dr. M. Burke favored packing the wound with iodoform gauze and turning the patient on his side, rather than making use of a drainage-tube.

The President spoke of a case of appendicitis which he had seen during the week before, and the specimens from which he had expected to be able to present to the society. The progress of the case had been very rapid, so that, although of only five days' duration, the patient had been moribund when first seen by the speaker. Up to this time there had been constant vomiting and severe umbilical and hypogastric pain. At the time of the examination there was some tenderness, but no distinct tumor in the iliac fossa; the abdomen was excessively tympanitic; vomiting persisted, and the rejected matter had a fæcal odor; the pulse was 120, but of fair quality; the temperature was 104°. Immediate operation was proposed, but the consent of the family could not be obtained until seven hours later, at which time he was rapidly sinking, death occurring two hours later with a temperature of 105°. Post-mortem examination had shown a gangrenous appendix with a large perforation, and a foreign body of the size of a lentil was found in its neighborhood. The speaker said that this case only emphasized the fact that there was less danger in operating early in those cases where the gradually increasing severity of the symptoms made it probable that perforation would occur.

Dr. Carlisle said that he thought his patient would have recovered more promptly if posterior drainage had been employed. The diagnosis of perforation had not been made simply on account of the fæcal odor; but he had been influenced to some extent by his knowledge of the results of Dr. Biggs's pathological observations. He would like to know if the cases in which Dr. Biggs had noticed but little rise of temperature were those in which there had been little pus.

Dr. Biggs replied that there had been no such connection between the quantity of pus and the range of temperature. Where there was general peritonitis following perforation, death usually occurred so quickly that the quantity of pus was not so large as in cases where the peritonitis was localized.

Notes on a Case of Antipyrine Poisoning.—Dr. Hermann M. Biggs gave the history of the case. (See page 35.)

Dr. A. Brothers asked if, in making the diagnosis, the existence of punctate diphtheria had been positively excluded. If not, this might afford an explanation of the renal symptoms.

Dr. Biggs said that clinically the case had pursued the course of an ordinary follicular amygdalitis, and the patient had recovered completely in three or four days.

Dr. W. N. Hubbard said that when he was an interne in Bellevue Hospital the routine treatment for rheumatism had been to administer fifteen grains of antipyrine every four hours, and he had seen no case of poisoning from its use in this way. On one occasion, through a misunderstanding on the part of a new nurse, a patient with pelvic cellulitis, who had been ordered one or two doses of antipyrine to reduce temperature, had received several additional doses, the nurse omitting to take the temperature. After a short time the patient was noticed to be collapsed, and a thermometer in the rectum registered 94° F.; but she had recovered under appropriate stimulating treatment. In private practice he had almost abandoned the use of antipyrine, substituting for it acetanilide, which was safer, and could be given in smaller doses.

Dr. Burke said that he had seen a number of cases of poisoning from the administration of large doses of antipyrine, but he had been impressed with the fact that children bore proportionately large doses well. He had used it freely in whooping-cough, and had never seen any toxic symptoms in children; but he no longer employed the drug in typhoid fever and pneumonia, and considered it positively dangerous in these diseases. There seemed to be a tendency on the part of the profession to administer the drug in much smaller doses than formerly.

NEW YORK ACADEMY OF MEDICINE.

SECTION IN SURGERY.

Meeting of December 8, 1890.

Dr. Robert Abbe in the Chair.

Bullet Wound of the Brain; Recovery.—Dr. John A. Wyeth reported the following case. On October 30th a schoolboy was brought to Mt. Sinai Hospital having a short time before been accidentally shot in the head with a pistol of No. 22 caliber, in the hands of his brother. The shot had been fired at a distance of about three feet and directly in front. The ball had struck the forehead. Beyond profuse hæmorrhage and severe pain, there had been no immediate symptoms. On admission, the boy was calm and rational; pulse good. About an inch above the middle of the right eyebrow a small round wound existed, the edges being depressed, and around it there was some slight swelling. Scattered spots of powder were present in the skin of the face and the clothing was covered with blood. Vision was good in both eyes. The boy had walked into the hospital without assistance. He was taken immediately to the operating room. He was there etherized, and, the external parts having been thoroughly cleansed, an incision two inches in length was made at the site of the bullet wound and parallel to the eyebrow. The periosteum was raised and loose pieces of bone were found in the wound, consisting partly of spicula of considerable size from the inner table. Fluhrer's probe was passed into the wound to a distance of a quarter of an inch. The patient then began to vomit. A finger was placed over the wound, and, on this being raised, there was a sudden gush of dark clotted blood and particles of white brain substance. The wound was washed out with bichloride solution and packed with iodoform gauze secured with a tight bandage. On November 3d the boy's temperature had risen to 104° and there was some delirium. Ice-bags were applied to the head. On the following day the wound, on being dressed, was found to be aseptic. After this dressing the temperature had fallen to a little above normal and had so continued. On the 8th, upon removal of the gauze, about half an ounce of blood-clot and broken-down brain substance welled up from the opening. No evidence of any suppurative process had existed in the discharged material at any time. During the progress of the case the patient had experienced more or less pain in the region of the occipital bone and in the right ear. He had continued to improve, and on November 25th his temperature was reported as normal and the use of the ice coil was stopped. On December 7th the wound was found to be entirely healed and the patient was suffering no pain; he was bright and cheerful, and did not seem to suffer any inconvenience from the loss of brain tissue or from the presence of the bullet in the cranial cavity. Care would be taken to keep him quiet for some time yet in order to give the bullet the best possible opportunity to become encysted. The speaker wished to give his late house surgeon, Dr. Weber, due credit for his successful management of this interesting case.

In the discussion which followed, the opinion was freely expressed that the Bell Telephone Company should be again urged to withdraw its obstructive decision which prevented the utilization of certain processes for the localization of bullets within the cranial cavity. Dr. Girdner explained that he had found out a method by which the ordinary telephonic connections might be arranged to do the necessary work.

Angeio-lipoma.—Dr. Willy Meyer presented a boy, twelve years of age, from whose cheek he had removed a large hanging mass. The relation of part of the tumor to important blood-vessels and nerves had suggested that it would be better to combine the methods of operating. He had therefore commenced the treatment by the use of the actual cautery, applying the same in rows. Subsequently the patient had returned to the hospital and the remainder of the growth was removed by the knife.

Dr. Wyeth said that in treating these cases he always had applied the method of Esmarch, which consisted in quilting a number of silk threads, previously sterilized, at certain distances apart throughout the tumor and leaving them there for some eight days. He had found this treatment work very satisfactorily, the blood supply being effectually cut off and the tumor diminishing in size without any further dissection.

Pylorectomy with Gastro-enterostomy for Cancer of the Stomach.—Dr. W. T. Bull related the histories and the details of the operations in three cases of cancer of the stomach. He thought it was strange that in this country—where so much good work had been done, both scientifically and practically in abdominal surgery—so little effort had been made for the cure of cancer of the pylorus. It was thought that the operation of pylorectomy had been simplified by the introduction of Senn's plates, and that the mortality would be much diminished. Another departure from the typical resection was the combination of pylorectomy with gastro-enterostomy, the cut edges of the stomach and duodenum being shut off so as to form a blind *cul-de-sac* and the anastomosis being made between the stomach and the jejunum. This had been the method employed by the speaker in his three cases. In the preparatory treatment the stomach-pump had been employed after the patients were under the anæsthetic. This the author thought a more effective way of emptying the stomach than the old method of several washings out previous to the anæsthetic. The median incision had proved the most satisfactory and was to be preferred to any other. He used no clamps on the stomach or duodenum to prevent escape of contents. The fingers of an assistant he considered more satisfactory, especially if, by the aid of hooks or loops of silk, the divided ends of the viscera were kept elevated in a vertical position. A plug of iodoform gauze was introduced into the duodenal opening and a flat sponge into the stomach. There was but slight bleeding from the stomach or intestinal wall, and that which followed the incision for the anastomotic opening was effectually controlled when the catgut rings were approximated. The loop of jejunum was shut off with strips of iodoform gauze while the anastomosis was being made. The continuous catgut suture through the mucous membrane, re-enforced by interrupted sutures, was used to close the cut edges of the stomach and duodenum. In using the rings the author always added to the silk sutures, which held them in apposition, a line of continuous suture, with an isolated suture where he thought it necessary. He looked upon the rings not as an absolutely sure means of uniting serous surfaces, but as a most convenient adjunct to a carefully applied peritoneal suture. In all of his cases the gastro-enterostomy had been perfect in point of accurate and secure apposition. One of the patients operated upon by the speaker was now alive, and at the last hearing was in good health. He thought that the fatal result in the two other cases could be traced to faults in the technique; in one case at least there was no doubt of this, as the autopsy showed that a sponge had been unfortunately left in the stomach.

Statistics showed that out of some thirteen hundred cases of cancer of this region one half had involved the pylorus. Half of these again were uncomplicated by any involvement of the glands. Therefore half the cases of pyloric cancer were really amenable to treatment by operation. He believed that death in these cases often took place from the effects of the mere mechanical obstruction long before the disease had exhausted the patient. The hydrochloric-acid test and other means now at one's disposal for careful and accurate diagnosis in these cases should render an early operation possible, and then with perfected technique he thought that the operation of pylorectomy might be raised from its present position to that of a life-saving and life-prolonging procedure.

Gastro-enterostomy, rather than Resection, for Cancer of the Pylorus.—Dr. Robert F. Weir presented a patient, aged forty-one, upon whom he had performed, about a year ago, a gastro-enterostomy, for the relief of a supposed fibrous stricture of the pylorus. The details of the symptoms and steps of the operation in the case had been published. The progress had been in every way satisfactory. The patient had made a rapid recovery and had continued in fairly good health up to the present time. During the past two months there had been a return of the vomiting. This the author thought might be explained in one of several ways. It was to be noticed that the wound in the abdominal parietes had yielded somewhat and allowed a hernial protrusion upon coughing or other explosive effort, and this had occurred in spite of the greatest care being taken in the closure of the wound. It was at first supposed that the traction of the protruding intestine through the abdominal defect might be sufficient to increase the angle, temporarily at least, at which the intestine was attached to the lower wall of the stomach, but, on carefully applying a truss or pad, no special improvement had followed. The next important question to decide was whether the plan followed at the time of the operation was not at fault. At the time of operation, after the abdominal cavity had been opened the hand was carried down to the vertebral column, feeling for the head of the pancreas, and then passed to the left of the median line, falling upon a loop of intestine, which was seized; if traction made upon it had met with resistance, it would have indicated that one was pulling upon a fixed point—the duodenum. But this was not the case, and, after one or two repetitions of the effort to grasp the upper end of the jejunum in this way, a loop of small intestine, situated nearest to the stomach, was caught hold of and brought out, incised, and sewed to the wall of the stomach. After reviewing the possibilities which might have led up to the return of some of the pre-existing symptoms, the speaker said that perhaps the opening made might have contracted so as to no longer permit of the passage of food from the stomach to the intestines. Dr. Abbe and other surgeons who had made intestinal anastomoses, using plates or rings, had in many instances found this contraction to a marked degree. This result was improbable in his case, as he had made very large openings. Careful experiments had shown that the man digested his food completely and that the vomited material was merely mucus. The patient was under treatment by lavage for dilatation, and was improving by this plan. The speaker then gave a critical analysis of the comparative mortality from the operations of gastro enterostomy and resection of the pylorus. He thought the latter operation had been performed a sufficient number of times and had been attended as yet by such fearful mortality, and had been of such little use in prolonging lives not directly lost by the operation, that it might be relegated to a place among the experimental procedures. He then gave his opinion as to the relative merits of the contrivances for keeping the peritoneal surfaces apposed and for expediting the operation. Of Senn's plates he said that the openings were too small. To get this defect remedied seemed likely to be a tedious matter. Of Abbe's rings he said that unless they were made with strict adherence to the plan laid down by the inventor, trouble was likely to ensue by their twisting upon themselves, in which case they would be likely to cause a solution of continuity and disastrous leakage.

Dr. Wyeth said he was inclined to lean toward the view taken by Dr. Bull, inasmuch as if the operation could be perfected as to technique, and it was shown that the cancer could be entirely removed and the intestine closed at one end and the stomach at the other, he thought that the operation was very much simplified and was one which surgeons would prefer. Plates of rawhide had recently been suggested for approximation, and he was inclined to think they would be excellent for this purpose.

Dr. Meyer thought that if it could be shown that surgeons were able by the operation of pylorectomy to remove the entire cancerous growth and then restore the continuity of the canal, and thereby give to patients an extra lease of from three to five years of life, and if proper selection of the cases in which to operate was made and the operation was performed early enough, it was idle to say that it had no future in surgery.

Dr. B. F. Curtis suggested the advisability of doing two operations in these conditions. First, gastro-enterostomy might be performed, and then, when the patient had recovered strength, the tumor might be resected. He thought such a plan very likely to improve the statistics.

The Chairman thought that if the operation of resection of the pylorus had only yielded fifty per cent. of satisfactory results, and took three hours to perform, no surgeon of only general experience and ability should attempt it. Gastro-enterostomy, when its technique was written upon and properly illustrated, should be possible to any man who could handle knife, scissors, and needles.

Dr. F. Kammerer, after narrating his experiences in the use of Abbe's catgut rings in several cases for intestinal anastomosis, said he was convinced of the importance of the introduction of extra sutures other than those with which the rings were supplied. If this was not done, the parts between the sutures would swell and the apposition become imperfect.

Dr. Bull said that he should not like to be understood as advocating that resection of the pylorus should be done in every case of cancer of this region. The views he held were entirely conservative in this matter. Still he took issue with those who did not think the operation ought to be done at all. It was the duty of surgeons to operate in case of this heretofore incurable disease whenever a chance of effecting a successful result presented, and it was especially the duty of physicians to look carefully into the clinical evidences, and thus insure the cases coming at the earliest possible moment into the hands of the surgeon. He thought that if this latter point were observed many cases of cancer of the stomach would come to light which were otherwise unsuspected until it was too late. He appreciated the suggestion made by Dr. Curtis as being a good one. While he believed Abbe's catgut rings to be the most effectual mechanical contrivance yet suggested for the effective coaptation of the cut surfaces, experience had shown him that serious contraction of the aperture was likely to result unless special care was taken to make it large enough, and that was why he had lately increased it to two inches.

Dr. Weir said that if it were made manifest that improved technique secured the desired results, he should be only too pleased to do the operation.

SECTION IN PÆDIATRICS.

Meeting of December 11, 1890.

Dr. L. E. Holt in the Chair.

Spina Bifida.—Dr. H. D. Chapin narrated the history of a case of spina bifida in an infant, in which the operation of excision of the sac had been suggested by Dr. Abbe. The operation had been performed that afternoon. The interesting point was that the filaments of the cauda equina were found in the sac. As these could not be separated, part of the sac was cut away and the rest sewed up. He did not think the baby would live many days, but it would have certainly died if it had been let alone. There had been some slight evidences of paraplegia, and he thought he had detected some anæsthesia in both legs. It had struck him as remarkable that in a spina bifida of such size there were apparently only one or two of the laminæ absent. He thought that if the nerve elements had not been involved in the sac there would have been a good chance of making a success of the operation.

The Chairman said that he thought the success in these cases would depend not so much upon the treatment as upon the nature of the lesion. Where the nerve elements were involved and paraplegia was present, he had observed that operations were unavailing, but where these complications were absent success was the rule.

An Acranial Monstrosity.—Dr. Watson exhibited a recently born infant in which the cranial bones were entirely absent, as was also the brain; whatever soft parts were present were being supported by the bones of the face. The case was interesting, as it was the second child to which the mother had given birth with this same deformity. When pregnant with the first one she had spent a great deal of time watching the antics of the monkeys at Central Park. During the second pregnancy she had stayed away from New York, but her mind had evidently dwelt on the first mishap.

Recovery after a Train of Symptoms indicating Tumor of the Brain.—The Chairman presented a little girl four years of age who was first seen last March. The history given was, that about a month before she had fallen from a considerable height, striking on the back of her head. There had been no vomiting or other signs of cerebral concussion. In the course of the next few weeks it was noticed that her gait was somewhat unsteady. At this time she was brought for observation and was found to be suffering from well-marked ataxia in both upper and lower extremities, but no loss of power. All the reflexes were a good deal exaggerated, speech was slow, but there was no vomiting and no sign of injury to the skull. The eyes had been examined, but with negative results. The electrical reactions were normal. These symptoms had lasted till the first of June, when the child was sent away from the city. From that time she had begun to improve steadily, until she was now able to walk again pretty fairly. The diagnosis had been that there was a rapidly growing tumor or a slowly forming abscess. The fact of the absence of any symptoms immediately following the injury excluded the idea of hæmorrhage, and there being no rise of temperature for the six weeks she was under observation had seemed conclusive evidence against the theory of abscess. There might have been some slight laceration at the base of the brain, with some degenerative change of a local character. The irritating effects having passed away, the remaining lesion was not sufficient to give rise to permanent symptoms. The child had been seen by many neurologists, all of whom had regarded the case as one of tumor or abscess.

Dr. W. M. Leszynsky said that exaggerated knee jerk was very common in children, and in this class of cases, where no positive symptoms were present, or even where there were optic neuritis, headache, and vomiting, it was not always safe to make a diagnosis of tumor of the brain. A boy whom he had watched with all these symptoms had completely recovered. He was disposed to consider the case now reported as one of spinal concussion.

Dr. B. Scharlau thought that the pressure symptoms might have been caused by the presence of a clot between the skull and the meninges. This would be for the time practically a tumor, and would give rise to a train of symptoms which would disappear as absorption took place without leaving a train of serious consequences.

Artificial Respiration in the Newly Born.—Dr. W. E. Forrest read a paper on this subject. After going over the ground generally and describing briefly the method of Schultze, he gave in detail the plan he had found to be of signal service under such trying circumstances as made the cases seem utterly hopeless. It was his custom to seat the child in a warm bath, and then, placing a hand, as a support, behind its head, and holding its arms with the other, to alternately depress its head upon its chest and then draw the head well back, at the same time raising its arms. In this latter position, with the child's head drawn well back, the cervical vertebræ pressed upon and closed the œsophagus, while the trachea remained patent. In this position the physician must lean over the child and perform mouth-to-mouth insufflation. In this way there was no danger that the stomach would get filled instead of the lungs, which had often been too justly urged against the usual methods. Another point in favor of this plan was that while the proceedings were in hand the child was under the influence of the warm bath and lost none of its vital heat, which it certainly did by all the other systems.

The Treatment of Large Serous Effusions into the Chest by Incisions.—Dr. Scharlau gave the history of a case of serous effusion into the pleural cavity which he had treated like a case of emphysema. He had made an incision into the sixth intercostal space down to the pleura, which he had opened with scissors. A perfect fountain of the fluid had gushed out so that the quantity had not been measured. On the third day the drainage-tube had been removed and the temperature was normal. In another three days there was a return of the natural vesicular murmur, and in two weeks the patient had left the hospital well.

In reply to some remark by Dr. THOMSON to the effect that the plan, though admirably adapted to acute cases, was likely to be a dangerous procedure in chronic ones, Dr. SCHARLAU said that he had not suggested it as applicable to all cases of serous effusion, but that, where the amount of fluid was so great as to press upon and displace the heart and lungs, he should prefer incision to aspiration.

Book Notices.

A Text-book of Practical Therapeutics, with Especial Reference to the Application of Remedial Measures to Disease and their Employment upon a Rational Basis. By HOBART AMORY HARE, M. D. (Univ. of Pa.), B. Sc., Clinical Professor of the Diseases of Children and Demonstrator of Therapeutics in the University of Pennsylvania, etc Philadelphia: Lea Brothers & Co., 1890. Pp. vi–17 to 632. [Price, $3.75.]

THE author states as his reason for adding a text-book to the literature of a subject that seems to have received generous attention from medical authors that those works in popular favor treat the subject from the standpoint either of the skilled physician or of the experimental pharmacologist. He has endeavored to bring together in suitable form the combined results of laboratory and bedside experience, so as to make the volume one for hasty reference by a busy physician, and yet sufficiently comprehensive to answer the several purposes of the student. While we may not agree with the author in his estimate of the volumes that are considered standard on this subject, the discoveries in this branch of medical science offer a field for a new work.

The volume is divided into four parts. The first is devoted to general therapeutic considerations, the second to drugs, the third to remedial measures other than drugs and to foods for the sick, and the fourth to diseases and remedies, a table of doses, and the indices.

We believe that the arrangement of drugs by alphabetical titles is a good one, but little having been gained by the division into classes that often served to confuse rather than assist the student. But we are impressed by the inequality shown in the consideration of the different drugs, comparatively unimportant remedies being treated of at as great a length as more important drugs that are considered in the sketchy manner familiar in the dispensatories. For instance, salol is dispatched with insufficient detail, while sandalwood—therapeutically insignificant—is treated of at almost double the length. And if such unimportant remedies as carbon bisulphide, *Rhus glabra*, geranium, matricaria, and tamarinds, for instance, are worthy of consideration, why omit convallaria, gold, lactucarium, naphthol, papayotin, and phosphoric acid? or why should not oleic acid—as two of the oleates are referred to in the volume—be given a paragraph as well as lanolin and petrolatum? It would, perhaps, have been as well to place *or sodium* after "silicate of potassium" (p. 269), as it is probably as frequently used as the latter. With some surprise we have noted separate articles on chlorodyne, Hope's camphor mixture, and lipanin, that are unofficial and, it seems to us, no more worthy of this consideration than many proprietary preparations. In the article on alcoholic poisoning the employment of hypodermic injections of strychnine—more useful than any of the remedies mentioned—has been overlooked; but this is compensated for by the omission of any commendation of the bromides or chloral that are so often resorted to disadvantageously in the treatment of this condition. So, in the article on salicylic acid, the author has omitted to state that the acid obtained from oil of wintergreen does not give the toxic symptoms that often follow the administration of the phenol derivative.

The section on diseases is quite elaborate and really better than the preceding divisions; possibly in a future edition the author may curtail this and elaborate the former section. Such revision will be essential in order to do better justice to the alkaloids, that are constantly becoming more popular and that are but briefly referred to without any information relative to the special field for their employment.

The fact that the volume is not more comprehensive is not a fatal fault, and its contents will undoubtedly prove very serviceable to many readers.

The Philosophy of Tumor Disease: a Research for Principles of its Treatment. By C. PITFIELD MITCHELL, Member of the Royal College of Surgeons, England. London: Williams & Norgate, 1890. Pp. xi-3 to 263.

No better idea can be given of the author's line of thought than these sentences from his first chapter: "The generation of a tumor must be regarded as a reversion to an ancestral mode of reproduction; as the resumption of a habit proper to the remotest ancestors of the *Metazoa*—the *Protozoa*. It is a seeding of the natural plastids of the body. . . . It is because the germs of a tumor are begotten by tissues whose vital powers are nearly exhausted that the germs acquire ascendency."

Those familiar with the author's former volume on *Dissolution and Evolution* will perceive from these quotations that this work is virtually a continuation and elaboration of its predecessor; and the general and special conditions of tumor disease are considered from the standpoint of numerous actual cases.

The chapter on the prevention of tumor disease informs us that if local irritation is prevented and "without other local circumstances competent to exhaust the local contained life-energy of the tissues, the general and predisposing conditions would be entirely nugatory." And the smoker's pipe is enjoined to prevent cancer of the lip; abstinence from alcohol, tobacco, and lingual irritation "would, with the greatest probability," prevent cancer of the tongue. Cancer of the pharynx, œsophagus, or stomach is probably due to intemperance and gross violation of dietetics. Cancers of the uterus and genitalia will probably be prevented by regulating coitus, etc. The best treatment is by the use of the knife.

The volume is a contribution to a subject that is not yet understood, and it is entitled to a hearing with other hypotheses until a last analysis decides what is the fundamental truth.

A System of Oral Surgery; being a Treatise on the Diseases and Surgery of the Mouth, Jaws, Face, Teeth, and Associate Parts. By JAMES E. GARRETSON, A. M., M. D., D. D. S., President of the Medico-chirurgical Hospital and Emeritus Professor of Oral and General Clinical Surgery in the Medico-chirurgical College, Philadelphia, etc. Illustrated with Numerous Wood-cuts and Steel Plates. Fifth Edition, thoroughly revised, with Additions. Philadelphia: J. B. Lippincott Company, 1890. Pp. xliv-25 to 1364. [Price, $9.]

The author, in presenting this fifth edition of his work, has placed before the oral surgeon, dentist, and general practitioner a book replete with all the essential information, both old and new, pertaining to the intelligent treatment of oral diseases. He assumes dentistry to be, not a profession in itself, but a part of medicine at large, and argues that when medical knowledge is lacking, dentistry is of very little use to a community. There are chapters on the descriptive and surgical anatomy of the face, mouth, and head, on dentition and allied diseases, and on therapeusis. Several chapters are devoted to operative dentistry and plastic operations on the face and nose. Dislocations, fractures, ankyloses, and exsections of the maxillæ are fully dealt with. Sections on tumors of the mouth and nose, medical diagnosis, anæsthetics, and antiseptics are added, and, as a whole, the volume is an exhaustive treatise, clearly and concisely written and profusely illustrated.

The Science and Art of Obstetrics. By Theophilus Parvin, M. D., LL. D., Professor of Obstetrics and Diseases of Women and Children in Jefferson Medical College, Philadelphia. Second Edition, revised and enlarged. Illustrated with Two Hundred and Thirty-nine Woodcuts and a Colored Plate. Philadelphia: Lea Brothers & Co., 1890. Pp. xv-21 to 704.

A second edition of Dr. Parvin's work will need no introduction to the profession, the previous treatise having been so favorably received. The author has made many alterations and additions, and has so thoroughly revised the first issue that the excellent subject-matter of this edition is well abreast of the times.

BOOKS AND PAMPHLETS RECEIVED.

A Text-book of the Diseases of the Ear. By Dr. Josef Gruber, Professor of Otology in the Imperial Royal University of Vienna, etc. Translated from the Second German Edition by Special Permission of the Author and edited by Edward Law, M. D., C. M. Edin., M. R. C. S. Eng., Surgeon to the London Throat Hospital for Diseases of the Throat, Nose, and Ear, and by Coleman Jewell, M. B. Lond., M. R. C. S. Eng., late Physician and Pathologist to the London Throat Hospital. With 150 Illustrations and 70 Colored Figures on 2 Lithographic Plates. New York: D. Appleton & Co., 1890. Pp. xxiv-580. [Price, $5.]

The Modern Treatment of Headaches. By Allan McLane Hamilton, M. D. Detroit: George S. Davis, 1890. [The Physicians' Leisure Library.]

Abnormal Intrathoracic Air-pressures and their Treatment. By Charles Denison, A. M., M. D., of Denver, Col. [Reprinted from the *Sanitarian.*]

Tuberculosis and Phthisis. By E. L. Shurly, M. D., Detroit, Mich. [Reprinted from the *Physician and Surgeon.*]

Transactions of the American Dermatological Association at its Fourteenth Annual Meeting, held at the New Bathing Establishment, Richfield Springs, New York, on the 2d, 3d, and 4th of September, 1890. Official Report of the Proceedings by George Thomas Jackson, M. D., Secretary.

Two Cases of Tumor of the Cerebellum. By J. Arthur Booth, M. D., New York. [Reprinted from the *Journal of Nervous and Mental Disease.*]

Pyoctanin in Diseases of the Eye, Ear, and Throat. By W. Cheatham, M. D., Louisville, Ky. [Reprinted from the *Lancet-Clinic.*]

Acute Glaucoma. By A. B. Norton, M. D. [Reprinted from the *New England Medical Gazette.*]

The Operative Treatment of Erysipelas. By Willy Meyer, M. D. [Reprinted from the *Medical Record.*]

Can Headaches and Asthenopia, resulting from Hyperopia, be relieved without Glasses? By A. B. Norton, M. D. [Reprinted from the *Journal of Ophthalmology, Otology, and Laryngology.*]

Imperforate Auditory Canals. By Seth S. Bishop, M. D., Chicago. [Reprinted from the *Journal of the American Medical Association.*]

Review of Nitze's Text-book on Cystoscopy. By Willy Meyer, M. D., of New York. [Reprinted from the *Annals of Surgery.*]

Annual Report of the Health Department of the City and County of San Francisco. For the Fiscal Year ending June 30, 1890.

Worte der Nothwehr gegen Seine Excellenz den kaiserl. russischen Geheimen Rath, Professor Dr. med. Herrn. Wilhelm Duszan Lambl. Von Dr. med. Franz Ludwig Neugebauer (Sohn), Assistenzarzt der gyniatrischen Universitätklinik in Warschau. Leipzig: K F. Koehler.

The Influence of Anæsthetics on the Pulse. By D. E. Keefe, M. D., Springfield, Mass. [Reprinted from the *British Provincial Medical Journal.*]

A Guide to Operations on the Brain. Illustrated by Forty-two Life-size Plates in Autotype, and Two Woodcuts in the Text. By Alee Fraser, Professor of Anatomy, Royal College of Surgeons in Ireland. London: J. & A. Churchill, 1890. Pp. (text) 24.

To Contributors and Correspondents.—*The attention of all who purpose favoring us with communications is respectfully called to the following:*

Authors of articles intended for publication under the head of "original contributions" are respectfully informed that, in accepting such articles, we always do so with the understanding that the following conditions are to be observed: (1) when a manuscript is sent to this journal, a similar manuscript or any abstract thereof must not be or have been sent to any other periodical, unless we are specially notified of the fact at the time the article is sent to us; (2) accepted articles are subject to the customary rules of editorial revision, and will be published as promptly as our other engagements will admit of—we can not engage to publish an article in any specified issue; (3) any conditions which an author wishes complied with must be distinctly stated in a communication accompanying the manuscript, and no new conditions can be considered after the manuscript has been put into the type-setters' hands. We are often constrained to decline articles which, although they may be creditable to their authors, are not suitable for publication in this journal, either because they are too long, or are loaded with tabular matter or prolix histories of cases, or deal with subjects of little interest to the medical profession at large. We can not enter into any correspondence concerning our reasons for declining an article.

All letters, whether intended for publication or not, must contain the writer's name and address, not necessarily for publication. No attention will be paid to anonymous communications. Hereafter, correspondents asking for information that we are capable of giving, and that can properly be given in this journal, will be answered by number, a private communication being previously sent to each correspondent informing him under what number the answer to his note is to be looked for. All communications not intended for publication under the author's name are treated as strictly confidential. We can not give advice to laymen as to particular cases or recommend individual practitioners.

Secretaries of medical societies will confer a favor by keeping us informed of the dates of their societies' regular meetings. Brief notifications of matters that are expected to come up at particular meetings will be inserted when they are received in time.

Newspapers and other publications containing matter which the person sending them desires to bring to our notice should be marked. Members of the profession who send us information of matters of interest to our readers will be considered as doing them and us a favor, and, if the space at our command admits of it, we shall take pleasure in inserting the substance of such communications.

All communications intended for the editor should be addressed to him in care of the publishers.

All communications relating to the business of the journal should be addressed to the publishers.

THE NEW YORK MEDICAL JOURNAL, January 17, 1891.

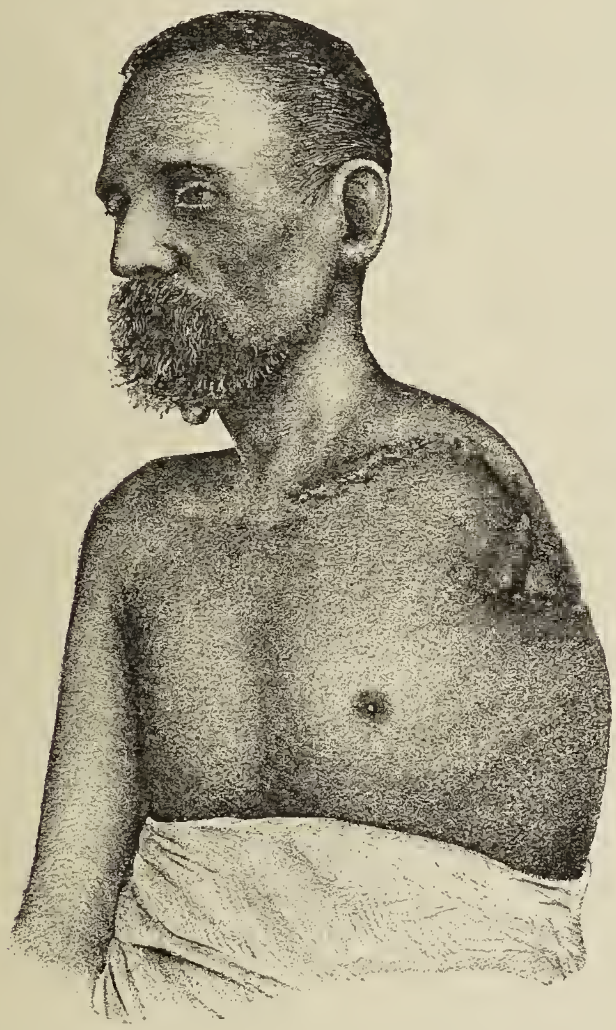
Original Communications.

AMPUTATION OF THE LEFT UPPER EXTREMITY,

TOGETHER WITH
THE OUTER HALF OF THE PECTORALIS MAJOR,
THE PECTORALIS MINOR,
SUBCLAVIUS, ALL THE MUSCLES OF THE SCAPULA,
A PORTION OF THE SERRATUS MAGNUS,
AND THE ENTIRE CLAVICLE AND SCAPULA.

RECOVERY.

By JOHN A. WYETH, M. D.,
PROFESSOR OF SURGERY AT THE NEW YORK POLYCLINIC;
SURGEON TO MOUNT SINAI HOSPITAL.



Judah H., aged fifty-four, married, was admitted into Mount Sinai Hospital on October 7, 1890. Nine months before, the patient had a sarcoma removed from the long head of the triceps, the wound healing by first intention. Very quickly, however, the trouble recurred. Three months ago he came back with considerable induration. Amputation was advised, but refused. At this time he could use his arm and hand. He consulted a physician, who operated, cutting out a piece of the mass.

On admission, the arm was one hard mass of indurated tissue, with œdema extending down to the hand. The tissues over the outer end of the clavicle and a portion of the scapula were involved. The arm and hand were useless. Complete removal of the entire extremity was advised and accepted. The urine was normal; specific gravity, 1·010.

Operation, October 14, 1890.—Ether having been given, an Esmarch bandage was put on up to the elbow. Constriction at the lower margin of the neoplasm. The shoulder was placed over the side of the table. An incision was made over the whole length of the clavicle, which was disarticulated at the outer end and entirely removed. The subclavian artery was then tied in its third surgical division. The suprascapular and transversalis colli branches of the thyreoid axis were next found and deligated. The pectoral muscles were then exposed and cut off close to the chest. The skin over the scapula was next dissected back, the posterior border of the scapula was raised, and all the muscles attached here were cut through with the scissors. The scapula being removed, the arm was only connected with the body by the axillary plexus of nerves and the vessels. The vein was now tied and the shoulder separated. Drains were placed in front, laterally, and out behind. Skin was slid so as to completely cover the wound. The sutures were of silk. Very little blood was lost. After the operation the patient's condition was good.

15th (the day after the operation).—Urine 1·020, containing a small amount of albumin and a few hyaline and granular casts. Temperature 102° F., pulse and respiration good. Fluid diet.

17th.—Temperature normal. Soft diet.

22d (eighth day).—First dressing. Tubes and sutures removed. Perfect union; no discharge.

29th.—Patient up. Since then doing well.

Since the last note there has been a little discharge of pus along the edges of the wound.

Three weeks after the operation a small nodule appeared beneath the chin and was removed. This specimen has not yet been examined, but seems to be a sarcoma. At this date, December 1st, no recurrence in the wound has taken place.

By primarily tying the subclavian, transversalis colli, and supracapsular arteries, and applying Esmarch's bandage to the extremity, the operation was rendered almost bloodless.

A. *List of Operations by which the Arm, Scapula, and Clavicle were removed simultaneously.*

No.	Age and sex.	Year.	Operator.	Disease or injury.	Parts removed.	Result.	Report.	
1).	32, m.	1860.	Nicpce.	Machine injury.	Arm, scapula, and clavicle.	Recovery.	*Bull. d. l'acad. impér.*, 1864, p. 723.	*Vide* Berger, No. 42.
2).	20, f.	1866.	Fergusson.	Sarcoma.	Do.	Recovery.	Gies (No. 13), *Deut. Zeitsch. f. Chir.*, 12, 1880, p. 562.	
3).	10, m.	1885.	Bell.	Sarcoma.	Do.	Recovery.	*Edinburgh M. J.*, 1885–'86, 31, 168.	
4).	Case herewith reported.		Wyeth.	Sarcoma.	Do.	Recovery.		

B. *List of Cases where the Arm and Scapula and a Part only of the Clavicle were simultaneously removed.*

No.	Age and sex.	Year.	Operator.	Disease or injury.	Parts removed.	Result.	Report.	
1.	Adult m.	1808.	Cummings (Ralph Cuming ?).	Gunshot injury.	A(rm), sc(apula), part of clav.	Recovery.	Gies (No. 1), *Deut. Zeitsch. f. Chir.*, 12, 1880, 562.	
2.	? m.	1814.	Larrey.	Gunshot injury.	A., sc., part of clav.	Recovery.	Gies (No. 3).	
3.	14, m.	1830.	Gaetani Bey.	Injury by explosion.	A., sc., part of clav.	Recovery.	*Bost. M. and S. J.*, 1842, 26, 338.	
4.	30, m.	1835.	Crosby (U. S.).	Osteo-sarcoma.	A., sc., part of clav.	Recov.; recurr. 4 yrs. after.	*N. Y. Med. J.*, 1869, viii, 435 (No. 12).	
Same ?	36, m.	1836.	Crosby, Dixi.	Carcinoma.	A., sc., part of clav.	Recov.; died 2 yrs. 4. mos. later. Recurrence.	Gies (No. 5).	Berger, 1.
5.	?	1838.	Twitchell (U. S.).	Malignant disease ?	A., sc., part of clav.	Recovery; died some mos. later. Recurrence.	*N. Y. Med. J.*, 1869, viii, 435 (No. 16).	Berger, 2.
6.	17, m.	1838.	McClellan.	Encephaloma.	A., sc., most of clav.	Recov.; died 6 mos. later. Recurrence.	*N. Y. Med. J.* (No. 17).	Berger, 3.
7.	56, m.	1845.	Mussey.	Osteo-cancer [sarcoma].	A., sc., $\frac{1}{2}$ of clav.	Recovery.	*Ibid.*, No. 22.	Berger, 4.
8.	? m.	1855.	Pirondi.	Crushing of shoulder.	A., sc., 2 ext. parts of clavicle.	Died; pulmon'y hæmorrhage.	Adelmann, $\frac{1}{4}$ *J. für Heilk.*, 144, 1879, 4, 36 (No. 13).	
9.	16, m.	1856.	Parise.	M. injury.	A., sc., part of clav.	Recovery.	Berger, 45.	
10.	14, m.	?	Parise.	Injury.	A., sc., $\frac{1}{2}$ of clav.	Death on the 12th day.	Berger, 46.	
11.	8, m.	1862.	Wishaw.	Encephaloid.	A., sc., part of clav.	Recovery.	Adelmann, 36.	
12.	40, m.	1863.	Syme.	Cystic fibro-cartilag. tumor; recurrent.	A., sc., part of clav.	Recovery.	Walder, *Deut. Zeitsch. f. Chir.*, 14, 1880, 308 (No. 10).	From Gurlt.
13.	40, m.	1867.	Fergusson.	Osteo-cancer.	A., sc., part of clav.	Died, shock, 3 days.	*N. Y. Med. J.*, 1869, viii, 435 (No. 61).	Berger, 7.
14.	2, m.	1867.	McLeod.	Cancer.	A., sc., part of clav.	Died.	*N. Y. Med. J.*, 1870, xii, p. 572.	
15.	34, m.	1869.	Thiersch.	Chondroma.	A., sc., part of clav.	Died.	Walder, 15.	
16.	13, m.	1869.	Watson.	M. injury (antis.).	A. (remains), sc., $\frac{2}{3}$ of clav.	Recovery.	Adelmann, 46.	Berger, 44.
17.	14, m.	1873.	Jessop.	M. injury.	A., sc., $\frac{1}{3}$ of clav.	Recovery.	Berger, 50.	
18.	17, m.	1873.	V. Langenbeck.	Sarcoma.	A , sc., part of clav.	Died, 5 days; hæmorrh. subcl.	Adelmann, 55.	
19a.	30, m.	1873.	Parise.	Osteo-sarcoma.	A., sc., $\frac{1}{2}$ of clav.	Recov.; death 18 m., cancer lung.	Berger, 10.	
20.	Youth m	1878.	Gundrum.	Gunshot injury.	A., sc., part of clav.	Recovery.	Gies, 21.	
21.	48, f.	1878.	Macnamara.	Osteo-sarcoma.	A., sc., part of clav.	Died next day.	*Lancet*, 1878, i, 669.	Berger, 11.
22.	20, m.	1879 ?	Lund, Edward.	Spindle-celled sarcoma.	A., sc., part of clav.	Recovery.	*Brit. M. J.*, 1880, 2, 617.	Berger, 12.
23.	58, f.	1882.	MacGill.	Tumor of scap. (antis.).	A., sc., part of clav.	Death on 16th day.	Berger, 13.	
24.	27, m.	1882.	Berger.	Enchondroma.	Sc., a., $\frac{1}{3}$ of clav. (Berger).	Recovery.	Berger, 15.	
25.	23, m.	1883.	Verneuil.	Osteo-sarcoma.	Sc. (in 2 portions), a., $\frac{1}{2}$ of clav.	Recovery (recurrence).	Berger, 18.	
26.	42, m.	1884.	Czerny.	Spindle-celled sarcoma recurring.	Sc., a., $\frac{1}{3}$ of clav.	Recov.; death pulm. phth. in same year.	Boll, *Archiv für klin. Chir.*, 1888, 37, 144.	
27.	? m. ?	1884.	Lewis.	Injury commin. fract.	Sc., fragment of arm, clav. (all ?).	Died.	Berger, 41.	
28.	38, m.	1884.	Lucas-Championnière.	Injury by mach.	Sc., a., part of clav.	Recovery.	(Berger, 51) *Revue de chir.*, 1886, 6, 529.	
29.	? m. ?	1884.	Ollier.	Sarcoma.	Sc., a., part of clav.	Recovery.	Berger, 19.	
30.	54, f.	1885.	Morisani.	Carcinoma of breast.	A., sc., part of clav. chest wall.	Died (shock).	Berger, 21.	
31.	7, m.	1885.	Schmidt.	Railroad injury.	A., sc., $\frac{2}{3}$ of clav.	Recovery.	*Med. Press. West. N. Y.*, 1885–'86, 1, 101.	
32.	26, m.	1887.	Jeannel.	Arm bitten off above elbow by a lion.	Sc., a., part of clav. (Berger-Farabeuf).	Died, $2\frac{1}{2}$ hours.	*Bull. et mém. de la soc. de chir. de Par.*, 1888, n. s. 14, 484.	
33.	21, f.	1887.	B. May.	Ossifying periosteal sarcoma.	Sc., a., $\frac{2}{3}$ of clav. (Berger).	Recov.; died in year. Recurr.	*Ann. of Surg.*, vol. viii, No. 6, p. 434.	
34.	47, m.	1887.	E. A. Lewis.	Osteo-sarcoma.	Sc., a., $\frac{1}{3}$ of clav.	Recovery.	*Ibid.*, 1890, xi, 2, Feb.	
35.	17, m.	1888.	B. May.	Round-celled periosteal sarcoma of humerus.	Sc., a., part of clav. (mod. Berger).	Recovery.	*Ibid.*, vol. viii, No. 6, 434.	
36.	44, f.	1888.	Sondermayer.	Sarcoma of humerus.	Sc., a., part of clav.	Recovery.	*Wien. med. Woch.*, 1889, 39, 1121.	
37.	37, m.	1889.	Parkes.	Malignant tumor.	Sc., a., part of clav. (Berger).	Died, 56 hours.	*J. Am. Med. Ass.*, Chicago, 1889, 12, 295.	
38.	Youth ?	?	Wheelhouse.	Injury.	A., sc., part of clav.	Recovery.	McGill (Berger, 49).	
19 *bis.* (39 = 19)	16, m.	1876.	Weinlechner.	Machine injury.	Rest of arm, sc., $\frac{1}{2}$ of clav.	Recovery.	*Allgem. Wien. Med.-Ztg.*, 1878, 23, 116.	
40.	11, f.	1889.	Southam.	Sarcoma.	A., sc., $\frac{1}{2}$ of clav.	Recov.; prognosis bad.	*Brit. M. J.*, 1889, 2, 1334	

C. *List of Operations not belonging to* A *or* B.

No.	Age and sex.	Year.	Operator.	Disease or injury.	Parts removed.	Result.	Report.
(2). 1.	20, f.	1866.	Fergusson.	Fibro-recurrent tumor.	Part of scap. previously removed. Removal of scap., clavic., and arm.	Recovery after operation.	*N. Y. Med. J.*, 1869, viii, 435 (No. 58).
(1) 2.	40, m.	1863.	Syme.	Osteoid fibro-cartilag. tumor.	Head of hum. previously removed. Removal of arm, scap., ½ of clav.	Recovery.	Adelmann, ¼ *J. für Heilk.*, 144, 1879, 4, 36 (No. 28).
(4). 3.	22, m.	1882.	Desprès.	Osteo-sarcoma.	Part of scap. previously removed. Removal of scap., arm, ⅓ of clav.	Recov.; death later from recurrence.	Berger, 14.
(3). 4.	35, m.	1869.	Parise.	Machine injury.	Took out part of scap., arm, and part of clavicle.	Death, 8th day, pneumonia.	Berger, 47.
5.	About 55, f.	1888.	J. A. Wyeth, N.Y. Polyclinic Hospital.	Sarcoma of deltoid region.	Arm, outer half of clavicle, and anterior half of scapula, with adjacent muscles removed.	Recov.; tumor recurred, and patient died about 8 mos. after operation.	

SOME PERSONAL OBSERVATIONS UPON HYPNOTISM

AND ITS EMPLOYMENT IN CERTAIN DISEASED CONDITIONS.

By H. ERNEST SCHMID, M. D.,
WHITE PLAINS, N. Y.

It has always been my opinion that for any member of our medical societies to read a paper on some rare disease is useless and hence foolish. No man can be of benefit to his colleagues by such literary work as long as he is not able to make original researches in connection with his particular subject. I have therefore urged, or endeavored to urge, upon the members of our county society the importance of practical papers—papers dealing with those ills of humanity with which we as daily practitioners are most frequently confronted.

On first view it will appear, then, that I bring this subject of hypnotism before you in contradiction to this opinion. But this is only apparently so. In reality, I feel justified in saying that to speak to you of hypnotism is *not* like bringing to you some compiled account of a rare disease; for even according to my own individual experience with this as a scientific, accepted, and new therapeutic means do I feel certain of being able to prove its value, especially in these days of neuroses of all kinds.

But I desire to say to you in advance that this, my own experience, is still a very limited one. It is more to induce you, my colleagues, to investigate the subject for yourselves—not to let prejudice induce you to sneer at and despise it—that I have taken courage to bring it before you; otherwise, have I approached the task with great timidity, and I do not hold myself able to discuss it deeply or explain it in all its strange diversities. I trust rather that, in its discussion now or at a later time, I shall learn something more about it myself, for in the discussion of a topic brought before any society lies, after all, its greatest usefulness for the practical physician. And yet, to make discussion of a subject valuable, it must be carried on by men who, by study and experience, are best acquainted with it.

If my paper is to stimulate my hearers to an investigation of its contents, so that at a future meeting of this honorable association a profitable discussion can be held, I shall be more than repaid.

I confess that not a very long time ago I held hypnotism in derision—an opinion, I might as well admit it, based upon *ignorance.* But unmistakable results have so greatly changed my views that I have come to speak a word in defense of what I formerly almost ridiculed.

It is impossible nowadays to set aside what has been investigated and accepted by some of the most prominent and scientific men in Europe. And yet there clings to it, in the eye of the general practitioner, so persistent an aspect of charlatanism (by which it so long was claimed as undisputed property) that he persists in viewing it with suspicion and fears being ridiculed were he to handle it.

Nobody hesitates to admit freely the influence of the body upon the brain. Eminent alienists maintain that no diseased state of the mind ever exists without a pathological condition of some portion of the brain. Why should we then hesitate to admit the influence of the mind upon the body?

All great advances in the natural sciences have been made by somebody's daring to make a stand against some existing opinion, even at the risk of drawing upon himself the curse of ridicule.

Is it necessary to remind you of the years of fighting against the prejudices of his colleagues Harvey had to live through before he secured recognition of his great discovery?

And shall we look down upon hypnotism because we can not understand its innermost essence? What, then, will become of all psychical processes, which we admit and yet can not fathom? Has anybody been able to explain how the fecundated egg, which is *without* a soul, develops into a being *with* a soul? Has it ever been explained by what subtle means the brain sends its command to contract along a nerve fiber to the muscle? Theories never come before facts, but facts are the forerunner of theories.

When we reflect on the latest achievements of science in other directions, it becomes an easy matter to broaden the foundation upon which we stand by admitting that what has been accomplished seemed far more impossible than what is alleged for hypnotism.

I have now for years become familiarized with the telephone, and yet I still look often at the telephone-wires as I drive past them, and marvel at the idea that through these wretched little filaments of iron I can speak across great distances and be heard and hear in return. And I can not keep from thinking how, a few hundred years ago, the man who might have made and used this remarkable instrument would thereby have been in danger of his life by being considered as dealing in black magic. To bring together the darkness of former periods with the light of the many discoveries of our own day would be like copying Jules Verne's story of Captain Nemo. But the future, no doubt, holds in store for humanity many greater discoveries, which will, in comparison, make our own present light fade away into as great a darkness as envelops the centuries prior to our own. I certainly can *not* believe that the man lives who expects to see the limit reached in invention and discovery. And I certainly *do* believe that the unknown or border land, in which live the yet nameless but not impossible things of Captain Nemo's devising, contains for us far more marvelous developments than have up to the present moment astonished, delighted, and benefited the human race.

Look for one moment upon the delightful radiance of an electric incandescent light, and then replace it with an ancient rushlight. Is not *it* alone sufficient to make one conscious of great "ignorance"? For, magnificent as is the gradual development from that first feeble luminary to this most brilliant one, how much more is known (with all the practical achievements and uses we have learned to make out of electricity) than was known of its nature some two thousand years ago? This single fact teaches us again the old saying, "the *more* we *learn*, the *more* we *realize* how *little* we *know*." And it is this consciousness of our ignorance which has given so great an impetus to the creation of the specialties of to-day. Knowledge has piled around us its treasures so high that the student of the hour is forced to be content with exploring a circumscribed domain of science. And so has hypnotism been made by some a specialty at once—hypnotism, an old thing in a new dress.

It is an acknowledged fact that intellectual and moral phenomena can be communicated to others, not by a microbe, but through that imitative faculty which all men possess to a greater or less degree.

Are we not all familiar with the fact that a "panic" during a battle has been known to extend to the stoutest hearts? Do not our sympathies go out to the poor victims of the suicidal epidemics, which have cropped out in many places, and of which it has been said that they had become a part of the day's doings?

Dr. Ebrard wrote a most interesting monograph on suicide as a recognized pest, and speaks of it as propagated by a moral contagion. Such as doubt this view of it I would refer to the dreadful epidemic of it in Lyons, where women, weary of life, threw themselves in crowds into the Rhone, or to a similar one in Marseilles, or to the great one in 1806 in Rouen.

Every one knows of the suicide of the seventeen invalided soldiers, inmates of the Hôtel des Invalides in Paris, who, in 1772, one after the other in rapid succession, suspended themselves from the same hook in a dark passage of the building. By the advice of Sabatier the hook was removed and a window broken into the opposite wall, and the suicides ceased.

Just so it happened under the first Napoleon. A soldier committed suicide in a sentry-box, and a number of other soldiers followed his example in the very same box. The emperor ordered the burning of it, and again the suicides ceased.

An English nobleman, weary of life, threw himself into the crater of Vesuvius. His example found numerous followers, till the Government placed guards to prevent any more fatalities. A friend of mine, being in Paris in 1883, desired to ascend the Vendôme column, but found the entrance closed by order of the police, on account of the increasing number of suicides committed by persons precipitating themselves from the top of the column. The Church of Notre Dame, the isolated tower on the Hradschin in Prague, and the so-called "monument" in London—all furnish similar examples. In Brazil the negro slaves have at times poisoned themselves by the score, not because they were badly treated, for on examination it was ascertained that the slaves who had hard masters were not found among the suicides, simply because they were afraid of them.

Timon, the Misanthropic of Athens, had a fig tree which became famous on account of the number of persons who committed suicide by hanging themselves from its branches. One day, when the populace had a meeting, Timon, the ever quiet, ascended the platform. Everybody was in astonishment at this and anxious to hear him speak. He said: "Athenians, I have adjoining my house a little yard in which a fig tree stands. Several of my fellow-citizens have hung themselves from it; but since I now propose building upon that piece of ground, I shall have to cut down the tree, and want to notify all of my intentions, that those who would yet wish to suspend themselves from it may hurry to do so before the removal of the tree has been accomplished." I do not quote this last fact from the writings of Plutarch on account of the ghastliness of its humor, but mainly to show how human nature has been the same since the beginning of the world.

Are we not acquainted with the fact that the folly or awkwardness of some people has produced disease in some, or at least intensified it? To tell some people that they *look* sick will *make* them sick. I recall with regret now a prank I, with several young friends, used to play at different times on an extremely imaginary and impressible man in my native town, which always made him so ill that he went to bed and sent for the doctor. We simply placed ourselves at various points along his route to his place of business, and stopped him, asking him how he felt, and remarking upon his bad appearance. Although he was well when the first lad accosted him, he grew very sick sometimes before he had run the whole course of the gantlet.

I hold that every unconscious imitation is a transfer of a brain movement, communicated to another brain in such a manner that the brain which repeats this movement of the first brain adopts it as one of its own originating, and not as a repetition. On this, to my mind, rests the great problem of hypnotism.

Every one who is a lover of dogs, and consequently has observed them much, must have met some specimens with great aversion to loud sounds—for example, those of a church bell, at the ringing of which they would break out into terrific howls, with evident manifestations of intense suffering. Some years ago I had a dog who was thus affected, making his neighborhood exceedingly uncomfortable by his noise whenever the church bell sounded, which, unfortunately, is next door to me. While I owned this tuneful creature another one was given me, who at first did not care in the least for the ringing of all the church bells around him, but after a while caught the disgust for them from the old dog, and learned to suffer as profoundly as that one had always done. I gave the second dog away and got a new one. But the same thing occurred with the third dog; he also learned to be in pain at the bell's sound, and I had finally to get rid of him and the old dog together before I could succeed in retaining with me one which did not howl during the bell's ringing.

There were expressed in these new dogs all the sufferings the old dog so plainly showed, and yet originally they had not minded the noise at all. Therefore the communicated brain movement had become like an original one with them. But even diseased brain manifestations can produce similar phenomena in other brains. All are familiar with the fact that gaping is contagious, and also that St. Vitus's dance and even epileptic seizures are communicable. Of course the soil must be suitable for receiving impressions. The depressing effects of great emotions alone do *not* create such soil, but they doubtlessly make what is *already suitable* still *more so.*

That this view of the contagiousness (I might as well call it) of brain movements, of physical, intellectual, and moral diseases, is not a singular one, is demonstrable among other things by the fact that not a few alienists have formed the belief that mental aberration may be communicated to a sound mind by example and daily intercourse with the insane.

Professor Cesare Vigna, superintendent of the famous insane asylum at Venice, published lately a monograph in which he takes a very decided stand in this matter. He says: "Moral contagion rests upon a moral law, which Dr. Despine endeavored to formulate thus: 'Every demonstration of the instincts of our soul, of the feelings, and all our passions, incites similar feelings and passions in individuals which are so constituted as to feel these instinctive elements up to a certain degree. Just as the sounding of a musical note causes the resounding of a *like note* in all resonant bodies which are capable of emitting the same note, and are brought within the sphere of the note struck, just so the demonstration of a feeling or a passion excites the same instinctive element, gives it perfect life, and makes it, so to say, resound in every individual who, by his moral constitution, is capable of experiencing the same more or less vividly.' This pleasing comparison, however accurate or striking, contains, nevertheless, only an indirect proof which throws certainly a fine light upon the phenomenon, but does not explain it satisfactorily."

The aberration of the sound mind by contagion can be shown to follow the same physiological law as that which governs the communicability of mania. When we live with persons who reason wrongly, who make illogical conclusions and act accordingly, our brain—constantly receiving, so to say, the reflex effect of these wrong conclusions, feelings, and actions—becomes strongly impelled to think, conclude, and act in the same manner. *They*, of course, who have already acquired a strong and steady judgment are at first little subjected to this power; they may even develop a strong dislike to this brain movement, but in the long run they can not resist. Others, however, who have not yet become possessed of a stable mind are carried away resistlessly. It is astonishing to find, on examination, to what extent our intelligence is impressed by favorable as well as unfavorable surrounding influences.

There does exist within us a secret force which constantly conforms our thoughts to our actions, and our entire inner being to our external habits. Therefore, if we are induced to commit wrong actions by contagion, as it were, our inner being will mold itself in conformity with this. And hence it does not take a great deal to plant in a person (especially in youth) false ideas, and thereby to cloud the sound mind and cause him to lose his clear reasoning.

I am convinced that the true essence of hypnotism possesses kindred elements to these thoughts. It is the imparting of a brain movement to others, or the creating a new one in another, which becomes as the other's self-originated thought. The only peculiar feature about it is the condition that can be produced in the majority of persons in which they are most ready to receive and adopt these foreign thoughts as their own. That the hypnotic state can be produced is an established fact. Why it is produced we do not know. That suggestions made to the individual during the hypnotic state are acted upon by him afterward is, to my mind, largely explained by what I have spoken of as the communicability of brain movements.

Experience, after all, has been of the first value in all natural sciences, most of all in medicine, for, up to very recent times, all our medical knowledge was empirical. And can we now explain all we see? Can we tell how all medicines produce their effects? In the majority of instances do we not have to content ourselves with the knowledge that a certain therapeutic means has been used successfully by others before us in certain pathological conditions, and that for this reason alone we follow in their footsteps? It is often almost the story of the lepers over again who were healed by washing in the Jordan.

To reject anything brought before us by men of undoubted ability and honesty simply because it appears absurd (and that only because inexplicable to our infantile brains) is unworthy of a follower of our noble art. Not ten years have passed since it was the prevailing thing in Germany to doubt the reality of all hypnotic phenomena, and to assume to explain all results of those practicing hypnotism as the joint product of credulity on the side of the operator and of simulation on the part of the patients.

But the names of Charcot and Heidenhaim and Forel and others have put down all such assumption at the present hour. Of course there are opponents still, but they are far less vociferous, and they even publish at times an occasional explanation of hypnotic phenomena, thereby wholly forgetting that by this attempt they acknowledge the very existence of these phenomena.

Of utmost importance is the point raised as to the possibly injurious effects of hypnotism, and it is our honest duty in pursuing the subject to inquire if it can exert a detrimental influence on the spiritual or mental health of the persons operated upon. The legal aspect of it also is most important, for there is no reason why the hypnotized might not be induced to commit crime. Although I am not acquainted with any special case where such was done, I feel certain that it *has* been done, and that for this reason several European governments most properly have made the exercise of hypnotism a grave penal offense, unless practiced by a competent physician and for proper therapeutic purposes. That the hypnotized might be made the victims of another's crime has been demonstrated by Liègeois, who is professor of jurisprudence at Nancy, and who does not even need to hypnotize women in order to make them believe they owe him money. He also made a woman confess a murder she had never committed. The same experimenter made women agree to commit crime, or to accuse others of having perpetrated a crime which had been committed by them.

There is no doubt that for crimes of this nature the hypnotizer should be punished, and *not* the hypnotized. The so-called magnetizers or mesmerizers are the charlatans who, either knowingly or not, practice and misuse hypnotism. By their public exhibitions they produce much damage among the most nervous individuals, especially of their audiences. All such charlatans should be dealt with severely by the legal authorities; but to abandon hypnotism on account of possible misuses would be as foolish as to strike from our therapeutics chloroform or chloral or opium because people have been killed by them, or to forbid instructions in the methods of bringing on abortion because of the practices of any abortionists. But even should an experience of many honest and careful investigators prove undeniably that hypnotism is beyond human control, that its essence can not be discovered, and that its dangers are *too* great, it would be still a proper thing to have investigated it, and discovered such facts about it, that then its use might be altogether prohibited, and any power it bestows taken away from the charlatans, who doubtlessly have done by it, under other appellations, much harm to humanity. Investigators report of an increased disposition to become hypnotized in those who have been thus treated. This means also an increased liability to suggestions, even in the waking state, and hence the danger of becoming an easy subject to the influence of others.

In my own experience I have only noticed the first thing mentioned—a becoming more easily hypnotized by repeated hypnotization. To remedy this evil, it is proposed to say to such patients, while in hypnosis, "Nobody will ever hypnotize you against your will, nor will any one influence you unduly while awake; you are perfectly able to withstand undue influence while awake, etc."

Liébault, who has employed hypnotism for thirty years, does not report any bad effects on patients under observation for so long a period. Forel, of Zürich, likewise gives no account of damaging consequences.

And hypnotism is far better than any of our well-known dangerous remedies; for the surgeon, for example, who uses chloroform the most, often meets the most fatalities, whereas the hypnotizer, who has the most experience with this therapeutic means, finds the least trouble.

Of course hypnotism, like all other therapeutic measures, has its circumscribed sphere, but its usefulness within it is destined to become very great. It has been asked: When shall hypnotism be employed? This is as yet difficult to answer. It seems, however, safe to place at the head of the list of diseases where its use promises the most success the functional neuroses. Chronic chorea, anomalies of menstruation, headaches, and sleeplessness are generally benefited by it.

Corval has cured stammering by it. Opponents to hypnotism have said that only such cases have been cured by it which might have been relieved by other means. This is *not* so, for enough cases of cure are on record in which everything else had been tried in vain, including hydropathy, massage, electricity, and even surgical interference. And organic diseases also have been benefited.

Bernheim relates a most interesting case of apoplexy with paralysis in which rapid improvement took place under hypnotic treatment. The patient afterward died of some pulmonary disease, and a post-mortem (which was fortunately permitted) revealed not only the state of the lungs causing death, but the evidences of the previous attack of apoplexy in the brain substance.

Chronic rheumatism with great visible swelling of the joints has its painfulness relieved by hypnotism.

There is a conflict among the followers of hypnotism, dividing them into two camps, one headed by Professor Bernheim, of Nancy, the other by the distinguished Charcot, who alleges a special something for the hypnotism of the hysterical, which he calls the "grand hypnotism."

I do not propose to judge in this, as I am but a beginner in the study and use of this remarkable "ism." Too much of it lies yet to me in the unknown territory of future scientific developments and explanations. But "suggestion" to me means simply a species of *psychic influencing*, differing, however, from all others, such as the *command*, the communication, or the teaching; for in being commanded during the waking state there exists always in the obeying a degree of questioning or criticising, whereas during hypnotic sleep this is *not* the case, and the suggestion is carried out without any examination as to its intrinsic value. As I have stated before, the thought, the idea, the impulse to act is, in the hypnotized person, received, adopted (absorbed, I might say), and regarded by him as originated within his own brain, and the hypnotic state produces a capacity for concentrated brain power unknown during the waking state.

We are greatly inclined to think all this exceedingly strange, and suspiciously eye this new visitor in the therapeutic camp. But it is really no stranger. Modern hypnotism is simply a development out of the so-called animal magnetism. Oriental nations have known for a long time the fact that certain psychical conditions can be induced in man by certain manipulations. They made use of this knowledge for religious purposes. The Egyptians, by an unflinching, fixed gaze upon some special object, usually of a brilliant surface, some vase or crystal, induced a hypnotic state.

The Persian Magi practiced the same largely several thousand years ago, and the Yogi and Fakirs of India have brought down this ancient practice, without intermission, to the present day. The Hesychasts or Omphalopsychics, who inhabit Mount Athos, hypnotize themselves by fixing their gaze upon their own navels. In all times has existed the belief that certain persons possessed a certain power over others. The laying on of hands in pronouncing a blessing, as recorded from the earliest times, belongs to this same category. So does the healing wrought by the old Egyptians by the touch of the hands. So does, if I am not mistaken, the cure of the king's evil by the laying on of the king's hand. The French kings from Francis I to Charles X practiced this. The way in which results were obtained by these means was by impressing the brain profoundly with the idea that benefit *must* and would come from this simple and therefore all the more mysterious procedure.

A patient of mine some time ago reported to me a most interesting occurrence in his family which further illustrates the strong effect of mind upon body. His wife had retired to bed before him, and just on going to sleep remembered that she had meant to take a portion of a certain saline cathartic she occasionally resorted to. She therefore asked her husband to prepare it for and give it to her. He found, however, that the bottle was entirely empty. It did not suit him to go to the drug-store at so late an hour, neither did he wish to say so to his wife; so he prepared the cathartic draught without the cathartic and administered it to her in the dim light of the chamber. The result was precisely the same as if the real dose had been taken.

From the time of Philip of Macedon to the present day parents have acknowledged the importance of making proper kinds of impressions upon the young. When Philip's wife gave birth to Alexander this wise monarch wrote to the great Macedonian sage Aristotle—who was chief physician of the court, and who, as we all know, had himself been a pupil of Plato and had the name of being one of the greatest and best of philosophers of the day—that he truly rejoiced in having a son born to him, but "that he called himself trebly blessed in having this son born at a time when he could have Aristotle for a teacher." By him he meant to have his son educated and his brain impressed with all that was best and purest and noblest.

All impressions often repeated are said to leave a lasting furrow upon the brain substance—*all* impressions, the *bad* as well as the good. Therefore does it become an imperative duty to preserve the young, whose brain is yet like wax, from bad impressions; and to see that this substance, which is the instrument (or the seat) of the intellect, grows hard in its form only while being molded solely under the purest and most beneficent influences.

Hypnotism is based upon all these facts obtained and acknowledged of brain impressions or brain influencings, with only this difference, as was stated before, that the subject in question does not know that the "ideation" produced in him originated first in another brain, but holds it as one originated by his own.

Now, if diseased conditions or emanations of the brain (under which head I class the condition needed to imitate, for example, the taking of one's life) can be *produced* by seeing them in others, why, then, is it not possible reversely to make the brain *conquer* diseased conditions; or, if I may put it more logically, if the brain can be so influenced as to produce in the body a diseased condition, why is it impossible to expect the reverse—*i. e.*, to impress the brain with the strong desire to remedy a diseased condition of any part of the body, as long especially as it is of a functional nature? It is alleged for hypnotism that it puts the brain into a state in which it becomes capable of developing the greatest amount of energy to carry out the suggested ideas. Are these statements of a nature which finds no explanation or analogy in human experience? "The halo of absurdity," says Professor Forel, director of the Zürich Canton Asylum, "is still by many thought to surround the problem of hypnotism; but I say to them: Have you examined it? Have you tested it? Have you tried it? Do not judge before having done so."

Bernheim, of Nancy, and all his colleagues have been and are still laboring constantly to deprive the hypnotic phenomena of all that is strange by trying to bring them into close connection with the normal psychic life and sleep. They endeavor to point out the relationship of hypnotic manifestations to the ordinary ones of the waking and sleeping state, and how the same psychological laws govern both; how all of hypnosis belongs to the domain of psychology, and how suggestion is its central point.

I propose now to say a few words about the history of hypnotism, and in doing so I may surprise some of my hearers by expressing the belief that the first tangible form to which we can trace it is undoubtedly to the occult science of astrology, which had its birth in the middle ages. We are all familiar with it, and a description of it here would be wholly superfluous. Most naturally it died, not, however, without leaving some facts behind it. The belief in the influence of the moon on human beings has still a by no means limited number of followers. The conjuring away of warts under a waning moon is a well-known relic of astrology.

Theophrastus Paracelsus created an immense furore when he appeared before the public as the greatest occult scientist of the first half of the sixteenth century. He is reported to have cured many people of diseases through the influence of heavenly bodies upon them. And there is no doubt in my mind, or in any one's reasoning with me, about the fact of their having been cured, *not*, of course, through the influence of the heavenly bodies, *but* through their belief in the influence of them, or perhaps still more through the powerful effect the wonderful presence of Paracelsus had on the minds of his patients.

In 1700 the Scotchman Maxwell proclaimed a new way of cure—"by transplanting the disease upon animals"—and a notion of this kind is still found in remote country districts of the Old World.

At the beginning of the eighteenth century the Italian Santanelli maintained that all material things exhaled an atmosphere which acted electrically; but it is a most significant fact that he likewise recognized the high value of the imagination. Considering the men so far mentioned as mere forerunners, the one to be spoken of now must be considered a great central figure. I refer to that celebrated Vienna physician, who lived from 1734 to 1815, and created everywhere the most extraordinary sensation and did the most wonderful things—the great and justly celebrated Mesmer.

Mesmer and animal magnetism are inseparable words. He divided magnetism into animal and mineral, and though he used the latter extensively for a long time by the medium of magnets, he later on dropped it entirely and devoted his whole attention to the former, using it alone in his practice among the people. At first he employed only the touch, but subsequently made use of different things as mediums. His professional brethren, however, made his life in Vienna so uncomfortable by their unceasing hostile attacks that he left that city, to the great sorrow of the multitudes whom he had benefited, and settled in Paris, where he founded a school, whose pupils were called Mesmerists. One of these, Chasteault Puysegur, a man of eminent ability, in 1784 discovered a state of condition which was termed "artificially produced somnambulism." I am perfectly certain that the peculiar state or condition recognized by Mesmer, and which he believed he produced by "animal magnetism," was nothing more or less than our present hypnotism, or rather hypnosis or hypnotic sleep, or hypnotic benumbing, or whatever else it might be christened.

It seems at first sight strange that these curious phenomena were not followed up—examined, studied—but were allowed to pass unheeded. However, when we bring to mind the fact that just then came the outbreak of the French Revolution, which submerged everything in the filthy depths of its merciless flood, we need wonder no longer. Nevertheless, Mesmer's teachings found pupils everywhere.

Lavater was the first teacher of animal magnetism in Germany. When first made known there it was looked upon with distrust, but in the first twenty years of our present century it became very popular and was practiced by many physicians. Foremost among them stands the well-known Hufeland, who, after having been a violent opponent, became a perfect devotee of it. But he persistently excluded from it all supernaturalness which the mystic party maintained strongly.

In 1812 the Prussian Government sent Dr. Wolfart, of Berlin, to Mesmer in Paris, that he might study under him. Wolfart returned an ardent convert and introduced magnetism "into the therapeutic armament of the hospitals," and became professor of it at the university. The government authorized magnetism in Prussia, and Denmark, Russia, Italy, and Switzerland followed its example within their territories.

Just then was dealt a severe blow to "animal magnetism" by the Abbé Faria, who came to Paris from India and showed, through experiments made in 1814 and 1815 (whose results he published in 1819), that "for the production of the symptoms seen in magnetism no outside power is needed, and that the cause of this artificially produced sleep resides in the patient himself."

"Behold in this declaration the fundamental principle of hypnotism." Still the practice of animal magnetism continued in the Parisian hospitals, and in 1826 the Academy of Medicine of Paris appointed a commission to examine into the nature of this strange "ism." Six years did this commission labor before they made a report, which was a favorable one. But the Academy remained incredulous, and in 1840 stopped all further discussion about it.

Then followed a time when science abandoned the subject almost entirely and left it to swindlers and charlatans, who enriched themselves by means of it out of the people's pockets.

In 1841 the French *magnétiseur*, Lafontaine, came to Manchester, England, and exhibited some experiments there. Dr. Braid, of that city, was impressed by them, studied the phenomena, and, for the first time, called the sleep produced hypnesis or hypnotism. Braid took the same position as Faria, but demonstrated the phenomena with far more method. He wrote a book on the subject, which soon fell into oblivion, to be resurrected and largely republished, and, if I am not mistaken, even translated into foreign tongues, years after its apparent death and the real death of its author. Braid hypnotized his patients always by making them fix a steady gaze upon some object, generally a bright and shining one. He at one time believed the condition induced to be the same as that produced by mesmerism, but abandoned this idea and afterward thought it altogether different from mesmerism. He became acquainted with the so-called cataleptic state and certain suggestions and made use of them therapeutically, especially in surgical operations, in which the mesmerists had already used their animal magnetism. Braidism then became a distinct term, and it and mesmerism were talked of together. Braidism was strongly championed by the physiologist Carpenter, but *it* with mesmerism fell into disuse.

In the mean time animal magnetism had taken root in our own country, prominently in New Orleans. Grimes, with Dods and Stone as followers (independently from him, however), had fallen upon Braid's method, but had called it "electrobiology."

In 1850 one of his pupils, Darling, went to England

and there exhibited his "electrobiological phenomena." But it was soon discovered that this was merely braidism under a new name.

Durand de Gros, a French physician, emigrated to the United States, where he became a convert to electrobiology. He returned to Europe and held public lectures and made experiments with his new science, but caused no interest. Then Ayam, of Bordeaux, took up braidism, encouraged by Bazin and ridiculed by others, and made original hypnotic experiments, the results of which he demonstrated before Broca, of Paris, who, in consequence, brought up hypnotism for discussion for the first time in the Academy of Sciences.

Velpeau and Guerineau tried it in surgical operations to make them painless; but they and a number of other distinguished surgeons in France, Germany, and Russia pronounced it of small value in this respect and let it drop, which expulsion from surgery prevented its entrance into medicine.

Meantime, Lièbeault, having experimented largely with animal magnetism and hypnotism, so as to become thoroughly familiar with all their different shades and grades, rejected entirely animal magnetism as a mere delusion, but espoused hypnotism most enthusiastically. He placed "suggestion in hypnotism" as a therapeutic means upon a scientific basis, and moved to Nancy, where he has become famous and attracts a large following. In 1866 he published his experiences and results in book-form. It was interesting and very readable, but did not meet with a great sale, and earned him much ridicule.

In 1875 Charles Richet came out for hypnotism, calling it *somnambulisme provoqué*. In 1878 Charcot made demonstrations with it, and exhibited the physical condition of hystero-epileptics during the hypnotic state.

In 1881 Paul Richet published in his book on the *Grande hystérie* many hypnotic experiments in the same spirit as Charcot. In 1872 Czernak in Germany, and after him Beyer, published an account of hypnotic experiments upon animals, but caused no special interest. Not Charcot's researches even, nor Prosper Despine's book on *Somnambulism*, published in 1880, called forth any investigations; in fact, no public scientific acknowledgment of the claims of hypnotism upon scientific consideration was made till the medical faculty of Nancy became interested in the subject. Then in 1886 was given to the world Professor Bernheim's most interesting work, containing a full account of his individual experience with hypnotism. He had studied the subject under Lièbeault and agreed with him fully. The dispute between the Nancy school and the Charcot, to which I have referred above and which is still going on, is of no special interest, and I shall not enter at all upon the merits of either side. But as regards the work itself of the Nancy school, it is but just to state that it attracted attention in Spain, Italy, Greece, Russia, Norway, Sweden, Denmark, and Holland. In fact, many years before Bernheim did Palido, in the first-named country, make therapeutic use of hypnotism.

The Society for Psychical Research in England has been devoting much time to the subject, and Hack Tuke has for years past pointed out its therapeutic importance. In Switzerland great work was done for it by the distinguished alienist Forel, of Zürich (mentioned by me above), from whose influence emanated the great interest awakened in the study of hypnotism in Germany.

I have carefully studied whatever I could find in print bearing on this remarkable subject, and I have (timidly at first, I confess, but confidently afterward) made use of hypnotism in appropriate cases as a therapeutic means. Of course my experience is limited, but the telling and unmistakable results of even *one* case are enough to demonstrate its value, or rather, first of all, its claims to existence, and to acknowledgment as a real, positive therapeutic agent.

Case I.—The first patient with whom I was led, or almost forced from sheer desperation, to employ the curative value of hypnotism was most remarkable in many respects. It would be folly to go into great detail. It will suffice to state that she had been ill for four years, and I was the twenty-third physician whose aid she had sought. She was then sixteen years old, remarkably robust and advanced in her physical development, representing rather a woman of twenty years and more. She was as pale as marble, showing redness only in the full lips.

Four years ago, while she was traveling in Europe, after an attack of measles and a severe mental shock, the curious nervous condition commenced. She spent most of her time in bed; was thrown into hysterical convulsions by the movement of the cars or a private carriage. She could walk but very feebly; she complained of constant dizziness, and saw snow falling before her eyes whenever she looked upon a dark spot. Her appetite was precarious and her digestion proportionate to the inactivity of her life. Her bowels were sluggish and her menses regular. She had last been in the hands of a reputed gynæcologist, who—with perfect justice, especially in view of the fine physical development of the patient, and his diagnosis being coincided in by a distinguished consulting neurologist—had made a vaginal examination, and thought there existed a slight uterine displacement. He therefore introduced a support. But she had worn it for several months without the slightest change in her symptoms; in fact, if anything, she was growing worse steadily. Believing that time enough had elapsed to gain results from this means, and perceiving none, and fearing that the consciousness of the presence of the pessary within her genitals would naturally and unhealthfully call her thoughts constantly to these bodily organs of hers, I removed the instrument. But on my next visit, some days later, I found her totally unable to walk across the room, because since the removal of the pessary (so she stated) she felt as if all her "insides" were coming out as soon as she attempted to take one step. I promptly made *a show* at replacing it, and these disagreeable symptoms vanished instantly. In fact, I had to deal with a case of hysterical insanity. In the course of from two to three months I succeeded in improving her physical condition to a considerable degree, but could not cause the nervous symptoms to yield one iota, although I had firmly expected improvement in this direction from her physical gain. I did persuade her to take a ride with me, but, though she endured it and did not attempt to jump out of the wagon, it was fraught with such evident mental anguish to her that I had to give it up. It was then that I concluded to try hypnotism, to which then I had given considerable attention in the way of reading Forel's book. The very first result was most gratifying. After having hypnotized her perhaps five or six times I suggested to her at my next visit to walk by herself, refusing all company, to the post-office as soon as she should have waked up from her hypnotized state. To her mother's surprise and even horror (for she had not walked alone at all for several years), she promptly followed out my suggestion. The fact is that she became perfectly well.

Case II.—A young lady of highly nervous organization, though otherwise in good physical condition, sent for me to relieve her of an excruciating attack of ovarian neuralgia to which she was subject, and which generally lasted for a number of days. She had been suffering for some hours before I could see her, trying many external remedies with no result whatever. It was nine o'clock at night and she in bed. I told the attendants to remove all outward applications, for I would give her relief without any medicine, and that speedily. Then I proceeded to hypnotize her, placing my hand on the painful region. In two minutes she was asleep, and did not wake up till five o'clock the following morning, as I was told on my next day's visit. No return of the pain took place.

Case III.—A case of inflammatory rheumatism of the wrist. The patient, a healthy young woman, had wrist and hand painted with iodine and enveloped in cotton and oiled silk. During several attacks of different ailments I had at various times hypnotized her with benefit. She had the most unbounded confidence in my word. It struck me therefore that this would be a good case to see what the power of the mind, the imagination alone (even without the hypnotic influence), could do. So I gave her simply twelve large sugar-of-milk pills and directed her to take one every three hours. I then told her, in as emphatic, positive, and decided a manner as I could call up, that soon after having taken the second she would begin to be better and would continue to improve in the same way after each new pill till all twelve had been taken, when no trace of the rheumatism would remain in her wrist. My predictions were made good by her to the very minute, and she was perfectly well after the twelfth pill.

Case IV.—A case of hysterical insanity in a young lady twenty-two years of age. She was constantly bemoaning past sins. I succeeded, after much difficulty, in bringing her into the hypnotic state, and suggested to her the absurdity of her grief over trifles and the beauty of cheerfulness. She got well at once, so that I did not have to repeat the hypnosis.

It seems to me that we, as medical men, too often forget that it is not our only aim to create a perfect science of medicine (which it is, of course, our duty to strive for while we prepare ourselves for the great work of a physician), but that, when we have come to practice among our fellowmen, we should not treat the diseases of our patients, but our patients themselves.

Case III has given me immense cause for reflection, and I can not bring this paper to a close in a more fitting manner than by quoting the following words of Maudsley, which, though written in 1870, seem to touch with perfect freshness what I have been endeavoring to point out: "Perhaps we do not as physicians consider sufficiently the influence of mental states in the production of disease and their importance as symptoms, or take all the advantage which we might take of them in our efforts to cure it. Quackery seems to have here got hold of a truth which legitimate medicine fails to appreciate and use adequately.

"Assuredly the most successful physician is he who, inspiring the greatest confidence in his remedies, strengthens and exalts the imagination of his patient. If he orders a few drops of peppermint-water with a confident air of curing the disease, will he really not do more sometimes for the patient than one who treats him in the most approved scientific way, but without inspiring a conviction of recovery? Ceremonies, charms, gesticulations, amulets, and the like, have in all ages and among all nations been greatly esteemed and largely used in the treatment of disease, and it may be specially presumed that they have derived their power, not from any contact with the supernatural, but, as Bacon observes, by strengthening and exalting the imagination of him who used them.

"Entirely ignorant as we are, and probably ever shall be, of the nature of mind, groping feebly for the laws of its operations, we certainly can not venture to set bounds to its power over those intimate and insensible molecular movements which are the basis of all our visible bodily functions, any more than we can justly venture to set bounds to its action in the vast and ever-progressing evolution of nature, of which all our thoughts and works are but a part. This much we do know: that as, on the one hand, in the macrocosm of nature it is certain that, the true idea once evolved, is imperishable, that it passes from individual to individual, from nation to nation, from generation to generation, becoming the eternal and exalting possession of man; so, on the other hand, in the microcosm of the body, which some ignorantly despise, there are many more things in the reciprocal action of mind and organic element than are yet dreamt of in our philosophy." (This in 1870.)

NOTES ON THE EXAMINATION FOR TUBERCLE BACILLI.

By LUDWIG WEISS, M. D.

Since it has been demonstrated beyond doubt that bacilli are the generators of tuberculosis in all the organs, it is evident that a thorough and careful examination of the sputum for them is of the utmost importance in order to settle the question of whether we are confronted with a case of tuberculosis or not. As Koch says: "The bacilli are not only the cause of tuberculosis, but they are the only cause of it; and there is no tuberculosis without bacilli."

Koch's method of treatment of tuberculosis is not directed against the bacilli proper; it does not directly kill them, but it destroys the tissue containing them. It is this tissue which is reached by the specific action of his remedy. The resulting necrobiosis involves tissue destined to be eliminated. The system endeavors to rid itself of it by the proper means for each organ. It will be raised and expectorated by cough in phthisis; it will exude on the surface of the skin in lupus.

But the case has an entirely different aspect if we do not succeed in demonstrating the presence of bacilli in the sputum. I have met with cases where all the symptoms pointed with a fatal certainty to the existence of phthisis, and yet the bacilli of tuberculosis were absolutely wanting. In a case of this character the patience of the physician is put to a severe strain. In one case observed by me, no fewer than forty specimens had to be examined before the long-sought-for little red bacilli could be brought to view under the microscope.

The lack of tubercle bacilli is, therefore, not an evidence of the absence of tuberculosis. It is possible that in a given case the bacilli may be very few, since their number is in some measure dependent on many causes. There may be present in the lungs an encysted collection of bacilli utterly without connection with the outer world. Such cases are those of so-called latent tuberculosis, where after a seeming cure cheesy masses and chalky deposits form themselves into concrements, become encysted, and represent a condition hitherto known as innocuous cicatricial healing. Such a tissue may contain bacilli, but only to a very limited extent. Now, if they, for some cause or other, should migrate into the adjacent tissue, they will naturally find a soil suitable for their development, will multiply, and, of course, appear abundantly in the sputum. Another possible cause for the temporary absence of tubercle bacilli is presented in many cases of cavities in the lungs. Here again we may be confronted in the first place with a mechanical difficulty, such as an obstructed, twisted bronchus, bronchial glands, inflammatory contraction, or perfect occlusion of the same. Then, again, it is possible that by an acute or subacute inflammation the surroundings of the cavities may become hyperæmic and the seat of pneumonic infiltration. In such a case the tubercle bacilli will again be found very scarce or altogether absent until lysis sets in.

These are only some of the possibilities which should put the physician on his guard in making the final diagnosis in cases where the tubercle bacilli are temporarily absent from the sputum. Although the demonstration of the presence of tubercle bacilli is not altogether a complicated affair, yet a degree of experience and certain physical appliances are necessary in order to enable one to work with ease, cleanliness, and some skill.

To accomplish these, I may be permitted to describe the several phases of examination of the sputum from the moment when it is submitted to our investigation.

It is a very sensible method to collect the sputum, if possible, in a glass jar which has a graduated scale in cubic centimetres burned in its walls, in order to ascertain the quantity of expectoration. We now empty the contents into a soup-plate, the hollow of which should have been painted black. This has the advantage that the grayish-white masses appear more distinctly on a black ground and are more easily discernible. The sputum, which in the jar has appeared in strata, will now become one floating mass in which serum, mucus, cheesy masses, and pus conglomerations are lying side by side. We now get our microscope in readiness by focusing it. A good bacterial microscope ought to be provided with an oil-immersion lens, an Abbe's condenser, and an iris diaphragm. This latter is an effectual device in place of the old diaphragm plate.

Two cover-glasses and one glass slide are now taken and carefully cleansed. This and one of the covers are meanwhile placed on a quadrangular black glass plate about four by six inches in size. This little contrivance will prove very serviceable, inasmuch as it makes slides and covers put on it recognizable. It is a veritable saving institution and will diminish the bill for glass accessories. The second cover is now placed between the thumb and the index finger of the left hand, while the right hand seizes a sterilized platinum loop, lifting out sputum from the plate of the size of about half a pea, and depositing it upon the cover-glass.

Care should be taken to avoid catching saliva or mucus with air bubbles.

After some experience one will soon be enabled to distinguish pus or cheesy masses. The latter are a veritable bonanza for the tubercle bacilli. We must, however, be prepared, in searching for cheesy masses, to find instead expectorated stomach contents closely resembling the former. Such errors occur very frequently. The true character of these masses, however, is only revealed under the microscope after laborious preparation of specimens. In cases of this kind we may find, instead of the tubercle bacilli, swollen starch granules or disintegrated meat fibers.

Having now placed the pus or cheesy mass upon the cover, we distribute it evenly with the loop and remove any superfluous remnants. The second cover is now placed on the top of the first, and both are moved in a sliding manner upon each other in different directions. By this we insure a still more even distribution of the sputum, and avoid an accumulation on the edges of the covers. In this way we have gained two specimens for further use.

We now place each cover, with the preparation side upward, between the thumb and the index finger of each hand, swinging them to and fro over the minute flame of a Bunsen burner for from half a minute to a minute until they are dry. Care should be taken to avoid scorching of the specimens, which would inevitably destroy the tubercle bacilli. This done, each cover-glass is seized between the branches of a pincette—Dr. Cornet's self-closing pincette is the best in this case—and is drawn three times in rapid succession transversely through the developed flame of the Bunsen burner. A spirit lamp will answer the same purpose, although not so handy as the former.

Now follows the second part, the staining of the specimens. Let us now take a small tripod, place a wire net over the opening, and lay a hollow hour-glass upon it, in which the required staining fluid is contained. Place now a spirit lamp—a Bunsen burner is preferable—under it and heat it. Our staining fluid consists of an alcoholic solution of carbolized fuchsine. The formula is:

Fuchsine....................	2 parts;
Alcohol.....................	20 "
Carbolic acid................	10 "
Distilled water...............	200 "

Now take one of the specimens between the thumb and the index finger of the right hand and place it carefully—always with the prepared side *downward*—upon the staining solution. As soon as the first bubbles appear and boiling sets in, turn the flame down and leave the specimen in the hot staining solution for not less than five minutes.

The specimen is now lifted out with a pincette and rinsed with distilled water. Hold the specimen with the preparation side downward until the water flows off colorless.

Any regular fountain syringe or irrigator, such as is found in every office, will answer the purpose where other more complicated appliances, such as a glass reservoir or a system of tubes and pipettes, are not at hand. Care should be taken not to direct too heavy a stream of water upon the specimen.

It is now necessary to dry the specimen by means of blotting paper, after which it is again placed—prepared side downward—for a minute and a half in a cold solution of methylene blue (a mixture of 3 parts of methylene blue, 50 of dilute sulphuric acid, and 200 of distilled water). It is now lifted out, rinsed, and dried as before. This completes the second, the staining, act; and everything is now ready for the microscopical examination.

A drop of the so-called "preparation" cedar oil (a mixture of cedar oil and glycerin) is now placed on the slide, and the cover-glass, with the preparation side downward of course, is pressed gently upon it. Another drop of "immersion" (clear) cedar oil is finally placed on the top of the cover, and the specimen is placed under the microscope.

A specimen thus prepared will bring into full view even solitary tubercle bacilli. The entire specimen prepared according to this process will be found stained bluish-purple, and the tubercle bacilli lie in it as red rods, 1·6 to 3·5 μ in length, singly and in groups or in heaps together. A picture is formed which, once seen, can not easily be forgotten.

In taking the liberty of describing this method of examination, I have given it simply as I was taught to use it in the richly endowed laboratory of the new City Hospital "on the Urban," in Berlin. I have studiously avoided describing more extensive and cumbersome apparatuses, in order to facilitate the method of observation to the practitioner. Much can be done with a small outfit.

It is doubtless true that there will be cases where a more intricate examination and counter-tests will be needed. In such cases, of course, the facilities of a well-equipped laboratory are necessary.

744 Lexington Avenue.

Grafting the Thyreoid for Myxœdema.—"The operation of grafting the thyreoid in a case of myxœdema has again been performed with success. The patient was shown by M. Merklen, at a recent meeting of the Société médicale des hôpitaux in Paris; the thyreoid graft was taken from a living sheep at the time of the operation; no antiseptics were used, but the graft and wound were kept carefully aseptic. Healing occurred by first intention, and the patient, a woman aged forty-one, improved considerably. The improvement appeared to be due in great part to the arrest of metrostaxis, from which the patient had previously suffered for months at a time; the hæmorrhage ceased three days after the operation, and had not recurred when the report was made three months later. The swelling of the face had decreased, the pseudo-lipomata diminished, and the mode of speaking became more natural. The graft, which consisted of one of the lobes of the gland, was inserted beneath the skin in the right submammary region."—*British Medical Journal.*

Tubercular Infection from Milk.—"Courtenay De Kalb, writing to the *Nation* from eastern Peru, says: 'Cattle are raised here solely for beef, milk never being used. It appears that in the tropics milk is even more likely to be infected with the *Bacillus tuberculosis* than in the North, and so many cases of consumption have been traced to its use that the entire population, with scarcely a single exception, leaves it absolutely alone.'"—*Druggists' Circular and Chemical Gazette.*

IMPLICATION OF THE MASTOID CELLS OF BOTH EARS IN A CASE OF CHRONIC PURULENT OTITIS MEDIA.

*COMPLETE AND RAPID RECOVERY FOLLOWING OPERATION.**

By HUNTINGTON RICHARDS, M. D.,
AURAL SURGEON AT THE NEW YORK EYE AND EAR INFIRMARY,
AND CHIEF OF CLINIC IN AURAL DEPARTMENT OF THE VANDERBILT CLINIC.

The title of my paper will serve, I trust, as adequate apology for my appearance before the gentlemen who favor me with a hearing this evening as the reader of a clinical history rather than as the presenter of a general, theoretical, or didactic essay. There is certainly nothing uncommon in the appearance of mastoid implication as a complication of chronic purulent inflammation of the middle ear, although, thanks to improved methods of treatment and more wide-spread knowledge of this affection, such a complication is becoming far less frequent than it was some ten or fifteen years ago. Still less uncommon to-day is an early resort to operative interference by drill or chisel in cases where this mastoid implication has been diagnosticated, and the generally good results of such interference are a matter of common experience to all who practice otology as a specialty and fall almost daily under the notice of all diligent readers of the medical journals. Yet it is a comparatively rare event in the experience of any surgeon to find himself called upon to open both mastoid processes in one and the same patient, and that, too, within the space of twelve days, as happened to me in the case I am about to report, and the rather exceptionally rapid, and certainly exceptionally perfect, recovery following operation in a case of purulent otitis media of so long standing is, in my judgment, a further excuse for narrating to others the clinical history of such a case. The value of the mastoid operation in certain severe cases of purulent middle-ear inflammation can no longer be questioned. It has been too often proved to admit of any room for doubt. The dangers attending the operation, formerly greatly exaggerated, are to-day more justly estimated and less gravely feared. As regards the necessity for the operation, I rank myself among those who believe that it should rarely occur in these days of improved surgical therapeusis, that in cases properly handled it does rarely occur, and yet that in a small proportion of cases it may justly be regarded as imperative.

Although the history of the patient which I am about to present is based upon very full and very detailed clinical notes, I shall endeavor in this paper to pass over matters of a commonplace, irrelevant, and trite character, and to confine myself, so far as may consist with an adequate and accurate portrayal of my clinical experience, to the more salient features of the case. I trust also that such method of presentation may serve the better to elicit discussion on the part of the gentlemen present regarding the indications for the mastoid operation, its dangers, its value, and its substitutes.

On the morning of the 18th of June, 1888—a day that I shall always remember for its exceptionally great heat—there was brought to my office for consultation a man about thirty years of age, stout and strong of build, and belonging to the type that we all recognize at a glance as the "full-blooded." He gave a history of otitis media with purulent discharge from both ears, occurring off and on, dating originally from childhood and sequent upon an attack of scarlet fever. In addition to this general statement, he remembered and, in answer to my questionings, described a period of three months some three years previous to his visit, during which time a rather scanty discharge from the left ear had been accompanied by noticeable swelling of the outside tissues. Treatment of the swelling had been by poulticing only and by some sort of medicine taken internally, and for the discharge the ear had been syringed three times daily with a glass syringe. As to the right ear, he recalled no very serious trouble in it prior to some five months before I saw him, but during these last five months it had pained him pretty steadily, sometimes very severely, and so as to keep him awake at night, and swelling over the mastoid had occurred at intervals. Some three weeks later—that is, about four months prior to his visit—there had set in another exacerbation of the inflammation in the left ear, so that during four months out of the five both ears had been troubling him greatly, pain in both being often severe and swelling over both mastoids being a frequent occurrence. Yet until within a few days of his being brought to me he had managed to keep at his work, that of foreman in a shoe-store. For a short time prior to this visit—how long I have forgotten—he had been subjected to the once popular "dry method" of treatment by boric acid. When he came into my office he was evidently suffering severe pain; his left eye was closed by a swelling that involved the whole corresponding side of the face, the left auricle was displaced forward, there was great swelling and redness of the supramastoid integument, and the auditory canal was tight shut by an intensely hard infiltration of its lining skin, so that I could not introduce an armed cotton-holder, much less a speculum. He complained of severe pain in the head and had a heavily coated tongue. I advised immediate operation, and recommended the New York Eye and Ear Infirmary as the best place for its performance, the man being naturally in rather straitened pecuniary circumstances, living very far from my office and probably amid rather unsurgical surroundings, and having no time to lose in procuring more suitable quarters. That afternoon I had the patient etherized, and cut down upon the mastoid, finding a little pus under the periosteum and a rough and depressed point in the bone immediately behind the margin of the auditory canal and on a level with its upper border. Applying the drill at this point, I struck pus at a depth of five eighths of an inch.

---

* Read before the Ophthalmological and Otological Section of the New York Academy of Medicine, November 17, 1890.

As is usual after such an operation, the patient passed a comfortable night, sleeping well, and felt much better the next day. From June 18th to June 30th, under daily dressing of the wound and syringing of the ear, he improved steadily; the stenosis of the canal subsided very quickly; his hearing distance for the voice rapidly increased; all discharge from the ear ceased within a week after the operation, and the wound over the mastoid healed so rapidly that by June 30th it was represented by a mere line of granulations, and no further mention of it occurs in my notes of the case.

Meantime the other ear—the right one—had begun to give the patient serious trouble. The right auditory canal, which had been fairly free on the occasion of his visit to my office, had begun to contract, the patient complained of much pain in that side of the head, and the tissues over the mastoid became so infiltrated as to cause very marked swelling behind the ear. Daily douching at frequent intervals, sometimes as often as once an hour, and the use of the artificial leech, failed to check the increasing and spreading inflammation. In view, therefore, of the patient's past history and of our very encouraging experience with the left ear, I advised a like operation for the right ear also. The man readily gave his consent, and on June 30th I cut down upon the right mastoid through a dense and pork-like tissue, fully half an inch in thickness; found the periosteum very firmly adherent and no accumulation of pus existing between it and the bone; drilled the bone to the depth of half an inch, and at that depth tapped an accumulation of pus. The stenosis of the auditory canal was rather slower in disappearing on this side than it had been in the case of the other ear, but by July 7th, eight days after the operation, it had so far subsided as to permit a view of part of the drum membrane, which part showed no evidence of congestion, and all discharge from the auditory canal had ceased.

On the 9th of July the man returned to his home, somewhere near the Harlem River, and became an out-patient of the infirmary, going thither every day to have his wound dressed. This move was immediately followed by untoward symptoms—viz., a bad night's rest, with pain in the ear, chills and sweating, and a recurrence of the aural discharge on the right side. The weather on the day of his return to his home being cool and rainy, and the man confessing on inquiry to a past history of malarial fever, it is possible that a malarial poisoning may have played a part in causing this slight relapse, although I was disposed to consider a too tight packing of the wound on July 8th and 9th to be more responsible for this set-back. However this may have been, a single dose of calomel and a return to lighter and looser dressings of the wound were followed by immediate and very great improvement in the man's condition. The aural discharge continued until July 15th, by which time it had completely and, as the event showed, permanently ceased. On July 13th the hearing distance for my watch was noted to be on the right side zero, on the left side contact.

From July 19th to July 25th the patient came daily to my office and underwent a short course of throat treatment and Politzer inflation in addition to the dressing of his wound, this course of treatment being adopted to expedite a return of his hearing power so far as possible prior to my departure from town on a summer vacation, which I had planned to begin on the 26th. On July 19th the hearing distance of the left ear for my watch was an inch and a half, increased by inflation to three inches. In the right ear the watch was heard on contact both before and after the air-douche. On the 25th my notes record the dimensions of the wound behind the ear as follows: An inch and a half in length and only a quarter of an inch in width in its broadest part. There was still a trifling degree of stenosis present in both auditory canals, but the drum membranes were almost wholly visible and, with the exception of a slight amount of thickening and a trace of congestion, looked fairly normal. The hearing distance was not then recorded.

The man promised to report to me after my return to town in September, but failed to do so until sent for on November 10th. He then told me that he had no discomfort of any kind connected with his ears; no pain, no feeling of fullness, and no tinnitus; and that, as to his hearing, he thought it as good as ever it had been in all his life. My watch he heard when held at a distance of several feet from either ear, but at home he said he could hear his own watch clear across the room, and also that, as regarded conversation, he could hear a person talking as far away as the entire length of the shoe-store where he was foreman. An examination of the drum membranes surprised me. The stenosis of the auditory canals had so completely disappeared as to permit a view of every part of their surface, and, in my own opinion as well as in that of Dr. Buck, whom I called in to examine them, they might well have passed for those of a man who never in the course of his life had suffered from any form or degree of aural disease. In regard to polish, thickness, and position they were pronounced entirely normal, and absolutely the only departure from a standard of perfection that we could detect on the closest examination was the presence of a bare trace of congestion about their uppermost portion and along the upper part of the handle of the hammer. As an aurist I could find no justifiable ground for urging further treatment, simply ordering the patient a "listerine" spray at home for his chronic pharyngitis, which still persisted, and discharging him as cured.

As far as regards the long duration of the aural affection, the exceptionally strong constitution of the patient, his indifference to and endurance of severe attacks of pain, and his persistent disregard of this and other symptoms which should have been considered as imperative demands for better treatment, the history of this patient, prior to the operation of June 18th, is similar to, though not identical with, that of a man upon whose ear I operated in May of this year, and a history of whose case, under the title Mastoid Sclerosis, etc., I reported in July before the American Otological Society.*

The clinical history to which you have just listened certainly shows in marked degree the possible utility of the mastoid operation in a very chronic case of purulent otitis media. The other showed the possible, although by no means probable, futility of the operation in such a case when a condition of extreme mastoid sclerosis had become a prominent pathological feature of the chronic inflammatory process.

The Love of Drugs.—"It is an innate idea of the English and American mind that there must perforce be some drug adapted to the ever-varying states of the body which contains it. So many disorders, so many remedies. The faith which never wavers that Nature has a panacea for every ill is touching to witness, and seems to flourish in an age of science and skepticism as vigorously as in the past. Americans especially exhibit a robust form of this faith. American girls, it is said, now carry about with them ornamental cut-glass bottles containing quinine pills, with which they dose themselves from time to time. If fatigued, they take two pills; if chilly, one; if hungry (as they generally seem to be), four or five. We believe that ten is the correct dose for wet feet. The quinine bottle is equal to every emergency, and produced on all occasions. We are glad it is no worse than quinine; at one time it used to be morphine and strychnine pellets; it might even now be ether."—*British Medical Journal.*

Microbes in the Stomach.—"Dr. Kianovski details in the last two numbers of the *Vrach* some observations he has recently made upon the bacteria contained in the stomach before and during digestion, with the object of determining the effect of the gastric juice upon them. He found that the fasting stomach of a healthy person always contains a large number of microbes, and that in the earlier part of digestion the number of these bodies is also considerable, and that it depends mainly on the number introduced by the food, saliva, etc. Notwithstanding this, the gastric juice, or rather perhaps the free hydrochloric acid in it, tends to exert a decidedly destructive influence upon the microbes. No effect appears to be produced upon the process of digestion by these bodies."—*Lancet.*

Arnica Eruption.—"At a meeting of the Paris Biological Society, M. Dupuy mentioned the case of a patient who was attacked by a pseudo-erysipelas in consequence of an application of tincture of arnica. He regarded the fact as very curious, and remembered that essence of rue exerted a similar action."—*Druggists' Circular and Chemical Gazette.*

---

* *Transactions of the American Otological Society*, vol. iv, part 4.

THE
NEW YORK MEDICAL JOURNAL,
A Weekly Review of Medicine.
Published by D. APPLETON & CO.
Edited by FRANK P. FOSTER, M. D.

NEW YORK, SATURDAY, JANUARY 17, 1891.

SECOND INFECTIONS WITH SYPHILIS.

THE subject of syphilitic reinfection is one which has engaged the attention of many syphilographers, some of whom declare that it is quite rare, while others deny the possibility of its occurrence. To one who looks to French sources for his information on such subjects there seems to be no longer much doubt about it, for he is told that it is exceedingly doubtful if second infection with syphilis ever occurs, and Fournier adds the weight of his authority by the positive statement that he does not "know of a recurrence of the chancre," and that "syphilis does not repeat itself." Such an emphatic expression of his views naturally excites surprise when it is remembered that in the immense service of the Hôpital St.-Louis Fournier must occasionally have encountered cases similar to those that are presented from time to time in current medical literature as instances of reinfection. In order to explain this apparent anomaly, French writers lay stress upon the great difficulties in the way of making a positive diagnosis in these cases, and say that an indisputable case of this kind should have presented (1) the typical phenomena of syphilis in the first attack, (2) a complete absence of tertiary accidents for some years, and (3) a new syphilitic chancre followed by typical secondary accidents. It is not sufficient to take the word of the patient alone as regards the phenomena of the former attack, but, in addition to this, the testimony of a competent physician who has seen and treated the specific accidents must be secured.

This is all well enough, but, while there are many opportunities for error, the subject does not seem to be quite so intricate as these authors would have us believe. At any rate, enough carefully recorded cases have been published to satisfy the most critical, and the occurrence of this accident is recognized by the medical world in general outside of France. Can it be that all France must close its eyes because Fournier declares that he has never seen a case? This strange national reluctance to acknowledge the possibility of syphilitic reinfection may be founded upon a wisdom born of sad experience, for, years ago, Diday, a Frenchman, published about forty bogus cases of reinfection, and recently Du Castel reported a case which is certainly far from convincing. Whether this is the true explanation or not, it seems hardly fair that the French should follow Fournier so blindly, when his master, Ricord, was willing to recognize a second infection after having in previous years denied its existence. We wish that those who are disposed to be skeptical on this subject could have been present when Dr. Robert W. Taylor exhibited before the New York Dermatological Society a case presenting well-marked evidences of a second infection. He has more recently reported another case of this kind with the following history:

"The patient is a thin, sickly-looking woman, thirty-eight years of age, of English parentage, a seamstress, married, and a person of intelligence. She states that eleven years ago, while having indiscriminate intercourse with men, she noticed an extensive, hard swelling of her external genitals which caused her much uneasiness, and lasted several months. This was undoubtedly indurating œdema complicating her infecting lesion, concerning which she is uncertain. Very soon after this swelling of the vulva, enlargement of the inguinal glands was felt. The woman was uncertain as to exactly how long after the appearance of the vulvar lesion, but stated it as a short time, she observed over her whole body, face, and extremities an eruption of little pimples which did not itch and remained persistently for several weeks. At this time she had intense headaches, which came on at dark and lasted well into the night. For a year she suffered from relapses of her rash on various parts of the body, but it is clear that it showed a tendency to become circumscribed and localized. During this second year of her infection she suffered from severe rheumatoid pains of nocturnal exacerbation, and had mucous patches in the throat. During this time also she suffered with typical syphilitic muscular contraction in the right biceps brachialis, and was for several months unable to extend her arm beyond an angle of ninety degrees. All through the period occupied by these lesions the woman was careless in the matter of treatment, though she had been informed that she had syphilis. In the third year of the disease a serpiginous syphilide appeared on both arms and on the right side of the neck. This eruption ran a slow, rebellious course of about a year, and has left typical scars of large size upon the right side of the neck, and much scarring upon the arms and forearms. As a result of this extensive scar, which extends over the flexor surface of the elbow, perfect extension of the arm is impossible. When syphilitic three years, and although in a miserable condition, she married, and as a result gave birth to two weakly, wretched little children, who died shortly after birth. During the ensuing five years in which she lived with her husband she says that she gradually regained her health. After his death she lapsed again in virtue and turned up in Charity Hospital three years ago, and eight years after her first infection with syphilis, with a chancroid and a virulent bubo. She was promptly cured and discharged. Then she suffered for a time with rheumatic pains."

Early in the month of January, 1890, Dr. Taylor found this woman again in the wards presenting a pitiable appearance. She was thin, emaciated, and weak, and showed a low power of assimilation. She had become broken down by reason of irregularities of life and privation. Over her whole face and neck there was a profuse, small, miliary, papular syphilide, scattered in discrete form. Throughout the scalp, papules and small pustules were abundant. In the center of the forehead a well-marked incrusted rupial ulcer was prominent. Over the whole body the miliary syphilide was very copious and conspicuous, existing in its typical corymbiform arrangement, and also as a generalized scattered eruption. Nothing could be more positively diagnostic, for, between the papules, fading, slight patches of roseola could be distinctly seen. Over the arms and forearms the miliary syphilide was copiously scattered, and over the thin, delicate cicatrices left by the serpiginous syphilide of the first infection these papules were placed in great numbers. On the left arm the remains of the hospital vaccination showed an incrusted rupial ulcer. Over the whole body the ganglia were decidedly enlarged. She also suffered from mucous patches of the tongue and mouth, and showed evidences of alopecia. She suffered severely with pains in the larger upper joints, and in the knees and feet by day, and worse at night. As a result, she was confined to her bed, and her cure was no doubt retarded in consequence of want of exercise, fresh air, and sunlight. She was treated with mercurial inunctions, and, by reason of the existence of the fibrous-tissue lesions, also at times with iodide of potassium. Now, after eight months' sojourn in the hospital, she is much improved, her digestion is better, her nutrition improved, her weight increased, and her general well-being far better than when she came in. She has now no active lesions, and the pains in her bones and joints cause her very little suffering. She frequently says very plaintively that she did not suffer nearly so much in her first attack, years ago, as she has in this, the second infection.

She was so deplorably weak at the time of her admission that Dr. Taylor yielded to her entreaties not to examine her external genitals thoroughly, therefore he is unable to speak of the infecting lesion of the second attack. She knew nothing of a sore on her genitals since the date of her chancroid, but the inguinal glands were typically enlarged, and, judging from her habits of life, the syphilitic virus had gained entrance through the genital tract. It is common for women to overlook the initial lesion, and therefore, although there is a hiatus in this case as regards the primary period of incubation of the second attack, nothing is wanting in the picture of the period of the secondary manifestations.

In connection with this case, it is interesting to note that the same observer has reported a case of acquired syphilis occurring in a subject who had suffered from the inherited disease. In April, 1879, a married woman, nineteen years of age, came to him for the treatment of an ulcer on the right side of the nose. She was the mother of a girl of three years, who was apparently perfectly healthy. Neither the patient nor her husband, who was thoroughly healthy, could give any account of her medical history bearing upon hereditary syphilis, and the only suspicious stigmata were a few cicatricial lines at the angles of the mouth. There was a slight coryza, but no adenopathy. "Mixed treatment" and a mild carbolized mercurial ointment were ordered, with local treatment for the nose. The ulcer finally healed, but the cicatricial deformity presented a very characteristic picture of syphilitic destruction of these parts. After about six months she returned with her mother, who gave a clear history of syphilis in her husband and in herself. She had had three early miscarriages before the birth of this patient, and the latter had a rash, condylomata, and snuffles for nearly a year after birth, and was a puny child for about six years. Two children, born, respectively, two and three years after the patient, had lived and enjoyed good health. About five years after her recovery from the lesions of hereditary syphilis she returned with a general macular roseola and a flat scaling syphilide. Her external genitals were the seat of many hypertrophied condylomata lata, and her pharynx contained mucous patches. This syphilitic infection was contracted from her husband, and began in an indurated nodule on the right labium minus, which was present at the time of the examination, and was complicated with much indurating œdema. The ganglia over the whole body were typically enlarged, there was marked alopecia, and there was a dry onychia. The woman was cured, and is now well and hearty, and the mother of a child two years old, lively, strong, and unblemished.

Recorded cases of this kind are very rare, and many of those that have been published are unsatisfactory. In connection with this case, the interesting question suggests itself, Did the prolonged mercurial course instituted for the cure of the patient's hereditary disease modify her system so profoundly that she lost her immunity again, and thus became the victim of acquired syphilis?

THE KOCH LIQUID.

Shortly before the time of our going to press, the purport of Professor Koch's latest communication, published in Berlin on the 15th inst., reaches New York. It deals largely with the results of clinical observation, which Koch holds to have been thus far confirmatory of his statements made in November. Nevertheless he admits—perhaps in consequence of the reports of such observations as Virchow's—that under some circumstances the use of his remedy actually promotes the tuberculous process, and is therefore injurious. He is entitled to great credit for this frankness.

But what our readers will regard as the most interesting part of Professor Koch's communication is that in which he gives some idea of the nature of the liquid. It seems that it consists of certain unknown substances extracted by means of a forty- or fifty-per-cent. dilution of glycerin from a pure culture of the tubercle bacillus. He declares that the precise nature of the active principle is at present unknown to him, although some of its physical properties have been ascertained, such, for example, as that it is not soluble in alcohol, but precipitable by that substance, although not in a pure state. The efficient principle seems to him to be an albuminoid derivative, but not to belong to the so-called toxalbumins, from which it differs by withstanding high temperatures and by passing readily through the membrane of a dialyser. It is estimated to constitute less than one per cent. of the solution, and this leads Professor Koch to remark upon its extraordinary potency as a poisonous or therapeutic agent.

It seems that Koch was guided to his discovery by observing the action of tubercle bacilli, living or dead, on tuberculous and non-tuberculous guinea-pigs. In the healthy animal an inoculation of the pure cultivation gives rise, after a period of incubation varying from ten to fourteen days, to a hard nodule, which soon breaks down into an ulcer and persists until the animal dies. When, however, a guinea-pig already tuberculous is thus inoculated, no nodule forms, but the superficial tissue at the place of inoculation becomes necrosed and falls off. Injections of a quite dilute glycerin infusion of a pure cultivation cause the animal's condition to improve. Evidently, having got thus far in his observations, Koch was unable to overlook the obvious suggestion that even dead bacilli, or at least a solution of some of their constituents or products, contained something that might be made available as a drug and produce the same effect. It was then, therefore, a comparatively simple matter to arrive at the production of the curative liquid now in use. We see no reason why it should not now be prepared in any well-equipped bacteriological laboratory, and thus the restriction heretofore put upon its general employment be ended. In the absence of a more detailed account of its preparation than Professor Koch gives, it may, we think, be assumed that any person who would consider himself conversant enough with bateriological methods to attempt the work of producing such a liquid would not, even without a hint as to the steps in the process necessary, have been in the least likely to produce an agent more dangerous than the Koch liquid itself. But Professor Koch feared such an occurrence when he first promulgated his method of treating tuberculosis; and his judgment was deferred to by the medical profession. He now brings up in support of his previous secrecy the argument that the less the clinicians knew about the nature of the liquid the more unbiased would they be in their observations of its action. This strikes us as odd, but there may be men so constituted. At all events, we are glad that the nature of the remedy has now been made known. The question of its curative action is still far from being settled.

MINOR PARAGRAPHS.

CRANIECTOMY FOR MICROCEPHALISM.

In introducing a new operation, M. Lannelongue has found it necessary to invent a new term to convey the idea of removing larger sections of the cranium than should properly be included in the operation of trephining. In a paper presented to the Paris Academy of Sciences last year he reported the case of a four-year-old girl, a microcephalic idiot, incapable of going about, but giving continual utterance to inarticulate cries, etc. The cranial conformation was scaphocephalic, narrow transversely, and prominent at the vertex. In order to modify a compromised or retarded cerebral development by removing the resistance of the cranium, he excised a strip of bone 9 ctm. long and 6 mm. wide, a finger's breadth distant from the middle line, on the left side. The dura was not opened and the periosteum was not replaced. The wound healed in due time. Five weeks after the operation the girl took notice of what was going on about her, tried to talk, and could stand and walk alone—her intelligence, in fact, was making rapid progress. A second patient was operated on, and in this case a piece of bone was removed from the frontal as well, but it was too early to report any improvement. Recently Dr. W. W. Kean, of Philadelphia, reported in the *Medical News* a similar operation on a microcephalic idiotic girl, aged four years and seven months, who had been intelligent as a baby, and had even begun to talk, but had subsequently lost her speech and could not walk. Her head was prognathous, and the sutures and fontanelles seemed closed. A similar operation, except in some minor details, was performed. In five days the wound had healed, but as yet there is no report of her mental improvement. In the same journal Dr. Trimble has reported a similar operation on a microcephalic boy aged three years. The wound had healed in five days, and subsequently the child improved in temper, learned to speak a few words, and showed a general mental amelioration. Vogt's theory that microcephalism is a form of atavism, being a type of brain inherited from some remote ancestor, is not considered tenable. Griesinger believes that premature ossification of the cranium confines the brain and prevents its normal expansion; but necropsies have shown that the brain may be small without other anomaly or defect, or there may be inequality in the size of the hemispheres, or other lack of symmetry, or sclerosis, or hydrocephalus, with the cranial sutures unossified in adult age. The gyri and sulci are ill developed, and sometimes the convolutions and fissures are entirely absent. But, if the disease is due to an arrest or failure of development that is not absolutely intrinsic, it would seem that Lannelongue's reasoning was correct, that the removal of any resistance hampering cerebral growth would allow the enfeebled brain to develop. Particularly advisable would it seem to be to remove such portions of the parietal and frontal bones as cramp the development of those lobes that seem to exercise the greatest influence on the mental and physical life of the individual. At any rate, the outlook for cases of microcephalism is not promising, and if an operation that is not dangerous will promise even moderate improvement in the condition of the affected child, it would seem to be the duty of the surgeon to undertake it.

THE UROTOXIC COEFFICIENT IN TYPHOID FEVER.

In a recent communication to the *Société des sciences médicales*, Dr. Roque and Dr. Weill reported the results of their researches on the elimination of urinary toxines in typhoid-fever patients treated by Brand's method and in those treated with antipyrine. They demonstrated that during the treatment by cold baths the urotoxic coefficient was maintained at an elevated rate and progressively decreased to normal when convalescence began, while in the cases treated with antipyrine the rate of toxicity was very slightly elevated during the entire time of medication, but quickly attained an elevated figure when the use of the drug was stopped. The conclusion was justifiable that the cold bath favored the elimination of the poisons by producing diuresis, while antipyrine masked their existence and an actual discharge of toxines occurred when the physiological effect of that drug was no longer felt. Dr. Marotte reports in the *Lyon médical* that Professer Teissier, acting on these results, has given naphthol, alpha or beta, to twenty typhoid-fever patients treated during the past year. Before beginning the treatment the urine was collected for twenty-four hours, and the urotoxic coefficient obtained averaging 0·7 per cent. An intravenous injection of naphthol was then given and repeated every fourth or fifth day. The toxine coefficient was reduced at once and did not increase during convalescence, because the quantity of poison that is constantly being formed in the digestive tract and thence transported into the system in a typhoid case was diminished by the antiseptic action of the drug. The action of the drug was also manifested by a green coloration of the urine and a diminution of albumin. According to the reporter, from 40 to 360 c. c. of a solution (of unspecified strength) of the drug was so injected. These seem to us exceedingly large doses to obtain even general antisepsis with. One patient died of suppurative nephritis, giving a mortality of five per cent., a higher rate than that of Brand with the cold bath. The experiments are not without interest, because they suggest the lines upon which therapeutical research should be advanced.

OOPHORECTOMY FOR OSTEOMALACIA.

Dr. Fehling, in the *Revue médicale*, recommends the removal of the ovaries in the treatment of osteomalacia in women. He has on several occasions performed the operation with the view of bettering the condition in this grave disease, and always with the most encouraging results. His argument is: 1. That the affection is manifestly aggravated at every menstrual period. 2. That there is a remarkably rapid diminution in the pain and severe symptoms immediately following the operation. 3. That, if the profusion of the blood-vessels in and around the annexa of the uterus, and their multiplication during pregnancy, are taken into consideration, and if macroscopic and microscopic examination of the parenchyma of the surrounding tissues and of the ovaries reveals nothing of consequence, another important factor as the causation of this malady is possibly indicated. He has found that the most fertile women are those most prone to the disease in question. In such cases he believes it due to an over-activity of the ovarian function. Women under his observation who had not had an accouchement for from four to eight years, and in whom the affection had persisted, had improved rapidly after oophorectomy. He concludes, therefore, that with this ovarian over-activity there is initiated a reflex action of the vaso-dilators of the veins of the bones, producing a passive hyperæmia and an active resorption of some element of the osseous tissue. In this condition removal of the ovaries seems to cut off the origin of the trouble.

THE URINE IN PALUDAL POISONING.

In a valuable contribution to the *Revue de médecine* for November, Dr. Roque and Dr. Lemoine state that their observations have shown that the agents of paludal poisoning produce in the blood large quantities of toxic products, and that these are eliminated, for the greater part, in the urine. This elimination presents its maximum intensity immediately after an access of the chill and fever. The gravity of the access and of certain forms of pernicious malarial fever is in inverse proportion to the quantity of toxines eliminated, and consequently seems to be dependent upon pathological alterations in the liver and kidneys. The disappearance of the paroxysms is probably in accord with the quantity of toxic products eliminated, because a urotoxic discharge more intense than any of its predecessors seems to precede the end of the disease. Sulphate of quinine acts therapeutically by favoring and increasing the elimination of the toxines.

ALPHA AND BETA NAPHTHOL.

The *Lyon médical* recently reviewed the history of alpha and beta naphthols that are obtained by the substitution of hydroxyl for an atom of hydrogen in naphthalene. Alpha naphthol crystallizes in white, brilliant needles or prisms; beta naphthol forms colorless or roseate, silky, crystalline plates.

Each is inodorous, very soluble in alcohol, in ether, in benzene, and in chloroform, less soluble in glycerin, and but very slightly soluble in water. Beta naphthol was the first that was employed in medicine, being used in the treatment of skin diseases. Dr. Bouchard thought that the drug could be employed internally with advantage in diseases in which intestinal antisepsis was necessary, because a 1-to-250 solution inhibited the growth of micro-organisms and prevented the fermentation of urine to which it was added. It is not toxic in doses of about a drachm to the kilogramme of weight of an animal, and 39 grains are sufficient to produce intestinal antisepsis. Dr. Maximowitch alleges for alpha naphthol an antiseptic value superior to that of beta naphthol, and says that at the same time it is far less toxic. Internally they may be administered in powder, in doses of from thirty to forty grains a day, or dissolved in oil of sweet almonds. Externally they may be used in an ointment, and, in alcoholic solution, for urethral, vaginal, or nasal injections.

CIRCULARS ON SANITARY SUBJECTS.

The State Board of Health of Pennsylvania has recently issued several circulars on sanitary topics. One is addressed to the clerical profession, whose co-operation is requested in suppressing public funerals for persons that have died of contagious or infectious diseases. Another, referring to an injunction granted by a Pennsylvania judge to restrain a municipality from directing a sewer so as to pollute a stream, urges all public institutions and large establishments to make provision for the purification of their sewage before it is discharged into a watercourse, and a list of works on sewage and drainage is appended. A third circular gives the precautions to be adopted by funeral directors to prevent the spread of contagious and infectious diseases. The work of State and local health boards in disseminating information of this kind is of great educational value, and these circulars will be of interest to other boards as well as to the classes to which they are addressed.

PARASITES AND PERNICIOUS ANÆMIA.

H. Railliet, in the *Revue général des sciences, pures et appliquées*, states that the pernicious anæmia occurring in men and the lower animals may be the direct result of the presence of various parasites. The *Centralblatt für Bakteriologie und Parasitenkunde* gives the result of the investigations. The parasites invading the liver are: *Distoma hepaticum* and *Distoma lanceolatum* in sheep; *Coccidium oviforme* in rabbits; and *Echinococcus polymorphus* in man and the ruminating animals. The intestinal parasites are various tæniæ in sheep and rabbits; *Bothriocephalus latus* and *Ankylostoma duodenale* in man; *Dochmius trigonocephalus* in cats; *Dochmius trigonocephalus* and *Dochmius stenocephalus* in hunting dogs; *Sclerostoma hypostomum* and *Sclerostoma tetracanthum* in horses; *Strongylus contortus* and *Strongylus filicollis* in sheep, goats, and cattle; and *Strongylus strigosus* and *Strongylus retortæformis* in the hare and rabbit.

THE INHALATION METHOD IN THE TREATMENT OF CONSUMPTION.

In the December number of the *Harper Hospital Bulletin*, of Detroit, Dr. E. L. Shurly, of that city, gives an interesting account of the inhalation method of treating pulmonary phthisis as it is carried out in the hospital. The article is illustrated with cuts of the inhalation room and some of the appliances and gives a number of clinical histories.

ITEMS, ETC.

The New York Pathological Society.—At the anniversary meeting, held on Wednesday evening, the 14th inst., officers for the coming year were elected as follows: Dr. H. M. Biggs, president; Dr. H. P. Loomis, vice-president; Dr. O. C. Ludlow, secretary; Dr. J. H. Hinton, treasurer; and Dr. G. C. Freeborn, editor.

The Koch Treatment at the Post-graduate Hospital.—Eight patients are being treated in the hospital with Koch's liquid. Three of them have lupus, four have phthisis pulmonalis, and one has laryngeal tuberculosis. The injections are in charge of Dr. W. C. Bailey, who was for a long time a student in Koch's laboratory, assisted by the director of the laboratory, Dr. J. H. Linsley.

A Proposed Electro-therapeutic Association.—A convention of American physicians interested in electro-therapeutics has been called to meet at the Academy of Medicine, No. 17 West Forty-third Street, New York, on the 22d inst., at 11 A. M., for the purpose of organizing an American Electro-therapeutic Association.

The University of Pennsylvania.—It is stated that Mr. Henry C. Lea, of Philadelphia, has given $50,000 to the university for the erection of a building for hygienic instruction.

The New York State Medical Association.—The seventh annual meeting of the Fifth District Branch will be held in Brooklyn on Tuesday, May 26, 1891. All fellows desiring to read papers will please notify the secretary, Dr. E. H. Squibb, P. O. Box 94, Brooklyn.

Change of Address.—Dr. Brandreth Symonds, to No. 29 Washington Square, N. W.

The late Dr. Coert Du Bois.—Dr. Du Bois died on the 1st of January. The following notice, by Dr. T. Gaillard Thomas, was unavoidably omitted from our last issue:

"I feel sure that I shall meet the wishes of the many friends of the late Dr. Coert Du Bois by giving them an account of his last illness and death.

"Dr. Du Bois had reached his forty-third year, was a man of florid complexion and full habit, and of rather sedentary tastes, taking little active exercise, and passing much of his time in reading.

"About two years ago he had his first attack of gout, and since that time has had a succession of attacks which were very rapidly leaving their deforming effects upon his feet.

"About a fortnight before his death cardiac symptoms developed, consisting in shortness of breath, substernal pain, and a sense of anxiety about the chest.

"Although careful auscultation revealed no morbid valvular sounds whatever, it was evident that cardiac trouble of muscular character existed. On the day before the night of his death I proposed a short walk to him, to which he agreed, with the half-jesting apology, "You must excuse me if I should drop dead on the way." This was said with a laugh, but before the walk was ended I became convinced that there were good grounds for the fear which he expressed. His respiration was so much impeded that I persuaded him to return home before he had gone far.

"On New Year's night Dr. Du Bois went to bed at 10 P. M., feeling quite comfortable to all appearances; in just twelve hours from that time he was found sleeping quietly the sleep of death. He had evidently passed away peacefully, without struggle and without pain.

"Born of an ancient and well-known family in Hudson, N. Y., Dr. Du Bois was graduated in medicine in the College of Physicians and Surgeons of this city in 1872, since which time he has practiced his profession here. Of a peculiarly modest and shrinking disposition, he lacked those harder elements of character which fit one for success in the sharp struggle for existence in a metropolis, and he came little into general notice and attracted little attention outside of the circle of close and intimate friends who knew his sterling virtues, appreciated his noble nature, and loved him for his distinguished sincerity and loyalty. His was a character which, by its tenderness, its simplicity, and its kindliness, shone under the genial light of appreciative friendship, not under that which must be borne upon the journey which leads through contention and rivalry to brilliant success. But his was a character likewise which excited the deepest affection, and his loss has caused a profound sorrow in the hearts of those who knew and loved him well."

Army Intelligence.—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from December 28, 1890, to January 10, 1891:*

By direction of the Secretary of War, the following-named medical officers will proceed without delay to Pine Ridge Agency, South Dakota, and report in person to the commanding general, Department of the Platte, for duty in the field:

Kilbourne, Henry S., Captain and Assistant Surgeon.
Gardner, Edwin F., Captain and Assistant Surgeon.
Everts, Edward, Captain and Assistant Surgeon.
Par. 9, S. O. 304, A. G. O., December 30, 1890.

Lauder, John V., Major and Surgeon, now on duty at Fort Ontario, New York, will, by direction of the Secretary of War, proceed without delay to Pine Ridge Agency, South Dakota, and report in person to Brigadier-General John Brooke, for duty in the field, and by letter to the commanding general, Department of Dakota. Par. 8, S. O. 303, A. G. O., Washington, D. C., December 29, 1890.

Cowdrey, Stevens G., Major and Surgeon. By direction of the Secretary of War, the extension of leave of absence, on account of sickness, granted in Special Orders No. 293, December 16, 1890, from this office, is still further extended one month on account of sickness. Par. 8, S. O. 302, A. G. O., Washington, D. C., December 27, 1890.

Rafferty, Ogden, First Lieutenant and Assistant Surgeon, is relieved from duty at Fort Sam Houston, Texas, by direction of the Secretary of War, and will report in person to the commanding officer, Camp Eagle Pass, Texas, for duty at that station, reporting by letter to the commanding general, Department of Texas. Par. 2, S. O. 301, A. G. O., December 26, 1890.

Wakeman, William, J., Captain and Assistant Surgeon, is, by direction of the Secretary of War, relieved from the further operation of Par. 13, S. O. 254, A. G. O., October 30, 1890, and telegraphic instructions of the 16th instant, from this office, transferring him from Fort Bidwell, California, to Fort Huachuca, Arizona Territory, and he will return from Reno, Nevada, to Fort Bidwell, for further duty at the latter post. Par. 3, S. O. 300, A. G. O., December 24, 1890.

Appointment.

Sutherland, Charles, Colonel and Surgeon. To be Surgeon-General with the rank of Brigadier-General, December 23, 1890, *vice* Baxter, deceased.

Sutherland, Charles, Brigadier-General and Surgeon-General, will, by direction of the Secretary of War, as soon as practicable, repair to this city and assume the duties of his office. Par. 9, S. O. 2, A. G. O., Washington, D. C., January 3, 1891.

Society Meetings for the Coming Week:

Monday, *January 19th:* New York County Medical Association; New York Academy of Medicine (Section in Ophthalmology and Otology); Hartford, Conn., City Medical Association; Chicago Medical Society.

Tuesday, *January 20th:* New York Academy of Medicine (Section in Theory and Practice of Medicine); New York Obstetrical Society (private); Medical Societies of the Counties of Franklin (annual), Kings (annual), Otsego (semi-annual—Cooperstown), and Westchester, N. Y.; Ogdensburgh Medical Association; Connecticut River Valley Medical Association (Bellows Falls, Vt.); Baltimore Medical Association.

Wednesday, *January 21st:* Northwestern Medical and Surgical Society of New York (private); Medico-legal Society; Metropolitan Medical Society (private); Harlem Medical Association of the City of New York; New Jersey Academy of Medicine (Newark); Philadelphia County Medical Society.

Thursday, *January 22d:* New York Academy of Medicine (Section in Obstetrics and Gynæcology); New York Orthopædic Society; Brooklyn Pathological Society; Jenkins Medical Association, Yonkers, N. Y. (private); Roxbury, Mass., Society for Medical Improvement.

Friday, *January 23d:* Yorkville Medical Association (private); New York Society of German Physicians; New York Clinical Society (private); Philadelphia Clinical Society; Philadelphia Laryngological Society.

Saturday, *January 24th:* New York Medical and Surgical Society (private—annual).

Letters to the Editor.

ALVEOLAR ABSCESS; A REPLY TO DR. J. D. MacPHERSON.

104 East Fifty-eighth Street, *December 30, 1890.*

To the Editor of the New York Medical Journal:

Sir: The rejoinder in your number of December 27th by Dr. J. D. MacPherson to my criticism (appearing December 6th) of his article published in your journal for November 22d, closes with such a brilliant array of authorities that I am forced to reply to the same.

In every specialty of the healing art there are men who have given the best portion of their lives' work to scientific research in that one particular direction. Such men become the acknowledged authorities for that line of practice. Dentists have given years to the study of the histology, pathology, and chemistry of the oral cavity, the result of which has enabled them to reach conclusions on the ætiology, diagnosis, and prognosis of diseases connected with the teeth that compare favorably with the work done in any other branch of medicine. They are not satisfied to practice to-day according to the advice of Tomes, published in 1859, in a work that is now obsolete as a dental authority.

I am writing now in behalf of scientifically educated dentists, and have no idea of taking up the cudgels in behalf of all the illiterate and incompetent who call themselves dentists any more than I suppose Dr. MacPherson would care to speak for the horde of medical quacks or natural bone-setters who infest our country.

A patient suffering from a cataract would not be apt to go to a general surgeon for treatment, but prefers the delicate and confident treatment which the trained ophthalmologist alone can give him. The hospitals recognize this by turning over all such cases to that branch of their staff. Because many hospitals have no expert dental surgeons to take charge of *all cases connected with the teeth* is only an indication of our lack of progress in this particular direction. There are hospitals in this country where all such cases, however severe the *symptoms*, however high the temperature, are turned over to the dental staff. The sensitiveness of the general surgeon to what he chooses to term encroachments upon his department is the principal hindrance to this being the rule at all such institutions. In private practice, however, we can all attest to the fact that the more severe the difficulties, the more anxious are our medical brethren to come to us for consultation and advice. It is for reasons like the foregoing that the more intelligent class of our community consult, not their physician, but their dentist, for the most severe types of alveolar abscess.

No one contends that the *early* extraction of an abscessed tooth will not be a radical cure of the disease; but enlightened dentists maintain that under *ordinary circumstances* it is as little called for as would be amputation of a third phalanx for the cure of paronychia. As a *dernier ressort* we all practice extraction of the teeth where the extreme ravages of the diseases necessitate such an operation, and it is in the delineation of such cases only that Dr. MacPherson quotes from "Garretson," the only authority he mentions that can be accepted by practitioners of to-day. In the same chapter Garretson details the ordinary method of treating alveolar abscess in order that the usefulness of the involved tooth may be preserved. The other dental authority, Tomes (1859), is, as before mentioned, on this subject obsolete.

The remaining authorities mentioned are medical and surgical works whose authors have merely inserted antiquated practice, though I must add that Bryant, in the same chapter from which the quotation of this author is taken, details a form of treatment (though not the present practice) for curing the abscess and preserving the teeth.

If the writer desires to claim protection for his classification under the wings of Briggs, the latter authority will have to bear the odium of such an absurd division. Experience has taught us that "the fold of mucous membrane passing from the cheek to the gum" plays no such important rôle in this trouble as the author alleges for it. It is nothing but *cellular tissue*, the very easiest of all the surrounding tissues to become softened and afford an outlet *in* the mouth for the pus. It is not denied that a "fair amount of knowledge of dental pathology" is of importance to the surgeon; but does he always possess such a knowledge? "The anatomy even of the lower extremities" sometimes must be understood by dentists, as Atkinson has on record a case of a woman in Crawford County, Pa., where an alveolar abscess of the inferior maxilla following the sheath of cellular tissue discharged in the little toe.

Abscesses, instead of having "a tendency to point in a direction horizontal to the point of origin," rarely do so, but invariably seek an exit at the point of least resistance. The "abscesses of the deep" form, of which he speaks as bursting externally, never so discharge when left alone, on account of the greater amount of resistance of the derm as compared to the cellular tissue. It is only when the meddlesome poultice is brought into use (too often by advice of the family physician) that this unfortunate result is observed.

There is another form of abscess where the inflammatory symptoms have not been sufficiently great to even rupture the cellular tissue (the cause of the trouble, the dead pulp not being removed), and the abscess becomes partially encysted. This form of blind abscess is the most difficult of diagnosis and is often far-reaching in its destruction of tissue, because too often its presence is not even suspected by the family physician, who may be treating the patient for *malaria*, *neuralgia*, *rheumatism*, etc., when the cause of the general disturbance and low tone of the system is a mild form of septicæmia which is gradually sapping the vitality of the patient and will materially shorten his earthly existence unless the dead pulp and the abscess itself are removed.

Where a chronic condition of this sort exists, whether there is a fistulous opening (much the easier for treatment) or a blind abscess has been infiltrating the surrounding tissue, there is a zone of carious bone and unhealthy soft tissue. Dr. MacPherson directly misquotes the writer when he sneers at medicinal injections curing such diseased conditions. It was distinctly stated that in such cases, first, it was necessary to remove the decomposed pulp, then render the canals aseptic (never using carbolic acid or any distinctive coagulant of albumin). After this had been properly performed, the cause of the abscess had been eradicated. Whatever damage has been done to the surrounding tissue or to the periphery of the root must now be removed by simple *surgical procedure*. The remaining portion of the tooth has no further bearing in the case.

The doctor's inference that after such treatment "the trouble may recur," and his "belief that this is the case much oftener than dentists are willing to admit," are decidedly *wrong* and on a line with his remark about our uselessly treating such teeth in "the mouths of the wealthy"—a statement it is almost impossible to meet on his plane.

When abscesses are properly treated in the radical manner above delineated, *they never recur*. The only exception to this statement would be found in patients the tone of whose system was of so low a grade as not to admit of the expectation of reparative action after a surgical operation that might be performed in any other portion of the body.

The first reply to Dr. MacPherson's paper was written for the purpose of placing before the profession, as plainly and succinctly as possible, the present accepted principles and mode of treatment in contradistinction to the antiquated treatment and procedure recommended by him, and was not intended to be an exhaustive critique upon his article. But, since he has thrown down the gauntlet of opposition, I will take the liberty of closing this communication by a reference to some other points in his original article. This was replete with questionable nomenclature, such as speaking of "gum-boils" and "small, puffy swellings" as "abscesses," when they are merely the points of exit of purulent matter; the use of the term "buccal, or the labial surface of the alveolus," when both terms are synonymous and refer to the outer surface; and the use of such obsolete terms as "fungous granulations" and "from the apex to the neck of the tooth," meaning the apex of the root, etc.

In the report of the three cases described so minutely the author has confounded carious with necrosed bone. A careful perusal of Bryant should have prevented his falling into such an error. The cancellous tissue of the alveolar process readily passes into a state of caries, while, as a rule, it requires a much more severe irritation to produce necrosis. In all three cases there is distinct evidence of carious bone; none at all of true necrosis.

In Case I, had the first operation extended directly to the carious bone, and the same been thoroughly removed, the two succeeding operations could have been dispensed with. In the two remaining cases the operator grasped this point intuitively, for he proceeded directly to the seat of trouble, the carious bone, the removal of which sufficed to bring about a permanent cure. In the removal of such carious bone, as the disease progresses more or less by a process of infiltration and where a line of demarkation (in contradistinction to necrosis) never sets in, the author would be able to reach a healthy zone of bone much more readily and with an infinitely less amount of suffering to the patient if he would supplant the *chisel* by the *dental engine*, an indispensable instrument to-day in any well-equipped dispensary.

In Case III it is inexcusable for the operator to have made an external incision until every means had been employed to direct the sinus toward the interior of the mouth. A careful perusal of dental authorities will show him that, where poulticing has often left the derm of only the thickness of paper intervening between the pus and the outside of the face, proper measures will in most cases be successful in diverting the sinus to the interior of the mouth and thus save the face from permanent disfigurement.

The last point to be considered: When, in alveolar abscess, is extraction to be determined upon by the dentist? Always when the tooth or root has become valueless for the proper performance of its physiological functions; in cases of impacted and encysted teeth; sometimes where the abscess penetrates the antrum; in some cases affecting the sixth-year molars, where it is possible to have the twelve-year molars take their places, and these in turn be replaced by *dentes sapientiæ;* where the ravages of disease have affected the periphery of certain roots which are inaccessible through the alveolar process; and in some very rare types of long-continued disease which has so enfeebled the entire economy as to contra-indicate any surgical operation.

In all other forms immediate extraction is wanton destruction of one of the integral factors of the portal of the digestive system. M. L. Rhein, M. D., D. D. S.

Proceedings of Societies.

NEW YORK SURGICAL SOCIETY.

Meeting of October 22, 1890.

The President, Dr. Charles K. Briddon, in the Chair.

Extirpation of the Gall-bladder for Calculi.—Dr. F. Lange exhibited several patients and narrated the histories of their cases.

Mrs. F., thirty-four years of age, had consulted him in October, 1889. Her previous history might be given best from a letter of hers, because it described very well the suffering to which patients of her kind were sometimes subject. She had written as follows: "In October, 1885, I experienced for the first time the pain of what was afterward learned to be gall-stones. After the first attack I suffered about once every three months, always supposing it to be a severe case of colic, the physician I then had in attendance never telling me definitely what ailed me. To relieve me he prescribed a mixture of morphine, which I thought acted like magic. As the months went by I found the attacks becoming more frequent and more severe each time, and the morphine mixture became less effective. I then decided to change physicians. Dr. O. being a physician of forty years' experience, I consulted him, and he immediately told me that I was suffering from a severe case of gall-stones. As I was also suffering from another disorder which needed an operation, Dr. O. took me under his charge, endeavoring to better my condition in order to perform the operation. He treated me for two years, always delaying the operation, as my health was so poor that he was doubtful about my safety. But the disorder was gaining such headway that he at last performed the operation in November, 1888, successfully. After that my gall-stone trouble became worse and the doctor told me that he could do nothing more for me, though he had certainly benefited me by his operation. I suffered on another year, but the agony I endured was more than I can explain. At length autumn approached and I suffered more than ever before. During the month of September, 1889, I suffered almost every other day with most severe attacks, and on one occasion a physician, upon whom I had called in emergency, told me that he had given me enough morphine, ether, and chloroform to perform an operation of three hours' duration, and still he could not control the pain. We afterward found stones about as large as a hazel-nut and any quantity of small ones. My body from head to foot was the color of saffron, and the action of the bowels and kidneys had stopped. I then read accidentally in a paper an article about operations for gall-stones and consulted you. I felt it was my last chance, and, after some deliberation, came to the conclusion that, if it should come to the worst, death would be preferable to the suffering I had been subjected to."

About her present state of health the patient had written thus: "The difference in my health between last year at this time and the present date (the gall-bladder was removed in November, 1889) is very marked, and could you see me now I am sure you would find me a splendid subject for recommendation, as I am perfectly well, never having experienced the slightest inconvenience either from the wound or from any other cause. I can safely say that I am a model of perfect health, and the good health I have always enjoyed since the operation has been beyond all my fondest expectations."

When Mrs. F. presented herself, in October, 1889, she was rather well nourished, but the expression of her face was languid and despondent. She had a deep-seated pain on pressure in the region of the gall bladder, which could not be felt, though the lower edge of the liver, which was not enlarged, hardly reached that of the false ribs. She was slightly jaundiced, the result of a severe attack of gall-stone colic which she had just suffered. Several gall-stones that had passed on previous attacks were presented. The operation was done in November, 1889, and consisted in removal of the gall bladder, together with its contents, without previously opening it. It was the only operation indicated in this case, and that for the following reasons: 1. It would have been impossible to approximate the gall bladder sufficiently to the parietal peritonæum, because the liver was small and concealed behind the cartilages of the ribs—so much so that the latter had to be resected to get proper access. Besides that, the gall-bladder was so deeply imbedded in tight adhesions with the omentum, large intestine, and duodenum, that no portion of its surface presented itself, and it could not have followed on traction. 2. The latter would have been dangerous because there existed an abscess within the wall of the gall-bladder, the latter having everywhere about the thickness of that of a uterus. In another case, where the speaker had attempted cholecystotomy "*en deux temps*" the gall-bladder and liver were small, often-repeated acts of vomiting and singultus caused the gall-bladder to be torn off, and all attempts to get hold of it were fruitless. No serious inconvenience followed, but the operation remained unsuccessful with reference to the attempted removal of the stones. 3. The operation of leaving the gall-bladder *in situ* and ligating the cystic duct would have been almost as tedious and not less dangerous, because of the purulent contents of the gall-bladder and the possibility of infection therefrom.

He could not deny that the operation itself was dangerous and difficult. The great depth of the wound, the comparatively narrow space in spite of resection of the cartilages, the extensive adhesions, the hæmorrhage from the liver, and the difficulty of properly applying the ligature at the depth of such a wound, made him regard this operation as a by no means indifferent surgical task. But all had gone favorably, and with iodoform tamponade and secondary suture the patient had made an uninterrupted and good recovery. The specimen shown, the speaker said, looked very much like an enlarged body of a uterus, with thickened walls. There were numerous stones, varying in size from that of a large hazel-nut to that of a pea. The mucous membrane was gone and the cavity was lined with a hard, fibrous coat. The abscess was in the wall at its apex. This was the only case in which he had removed the whole gall-bladder for stone, but he believed that in a case of this kind no other operation was indicated. At the last surgical congress a similar case, with equally technical difficulties, had been reported, which had also ended favorably.

Nephrolithotomy for Calculus; Two Cases.—The next case reported by Dr. Lange was that of Mrs. M., fifty-six years of age, an otherwise healthy and strong lady, who had a severe attack of pain in the left lumbar and hypogastric regions in February, 1887, and another attack in the spring of 1888. The urine, so the patient said, was always clear and was found normal on repeated examinations by her family physician. In November, 1888, a third very severe and protracted attack had occurred, and since then the urine had become cloudy and mixed with pus. The speaker had seen the patient in consultation with the late Dr. G. Krehbiel in January, 1889, during a feverish condition which had lasted several weeks, with pain that was localized in the region of the left kidney. The latter, by an examination under chloroform, could be made out as apparently somewhat enlarged. The continuance of the morbid symptoms had called for exploratory nephrotomy, which was done on the 23d of March, 1889. A small stone of the size of a large bean was found impacted in the ureter just where it emerged from the pelvis of the kidney. It was removed by incising the latter. It consisted mainly of oxalate of calcium. A large quantity of pus escaped from the dilated pelvis. An exploration by finger and probe revealed no further stones. The pelvis of the kidney was kept drained for a period of about ten days, when the urine had become clearer and partly escaped through the urethra. Very soon after the removal of the drainage-tube all the urine was passed by the bladder. On the 29th of April the patient was discharged cured and had remained healthy since. The urine, after repeated examinations, was normal.

Double Nephrolithotomy.—Dr. Lange said he would like to present again the patient on whom, about five to six years before, he had done nephrolithotomy on both sides. The operation on the right side was done about six or seven weeks after the first one (that on the left) for complete retention of urine in the pelvis of the kidney, and he was lucky in removing from the ureter an impacted clot consisting of gravel and old blood. There was also an abscess in the substance of the kidney, which was opened. The patient had been in fairly good condition ever since, especially about the time when he had presented him to the society, some three or four years ago. The wound on the left side, by which a large quantity of stones had been removed, had, however, never healed entirely except for short periods. A fistula still persisted, and through it repeatedly small stones had been extracted. Lately the urine had again been more cloudy. At the bottom of the sinus some stone could be felt. The kidney itself probably had no significance as a urine-secreting organ, because no urine had been discharged through the wound after the nephrotomy, and the suppression of urine from stoppage of the right ureter had been complete. This was not absolute proof, but, together with the other facts, pointed strongly in favor of the assumption mentioned.

He would like to raise the question as to whether it was advisable to remove the left kidney entirely in this case, considering the previous history of the patient. The organ could be felt as a resistant, somewhat enlarged mass. The patient was subject to some suffering. At times he would have retention and more matter would form. There was, or had been about ten months before, a communication between the sinus and the bladder, and perhaps most of the pus secreted with the urine came from this side. The other kidney, however, could hardly be assumed to be healthy. The urine had always presented traces of albumin at the patient's best period, and was somewhat light in specific gravity. Would that contra-indicate nephrectomy on the left side? Nephrolithotomy alone would probably be incomplete again. It was very difficult to remove from the ramified pelvis of the kidney all stony deposits, and sometimes the latter were in the substance of the kidney itself.

Dr. Gerster said he could bear testimony to the excellence of Dr. Lange's posture for lateral nephrectomy and nephrotomy. It was the only posture in which the operation should be performed. It obviated the necessity of pressure from below by an assistant to bring the kidney from the bottom of the wound and near the surface. It rendered access to the pelvis of the kidney very easy. On the other hand, he wished to remark that the vertical incision was the most popular on account of the idea that its direction was parallel to the muscles of the lumbar region. Nevertheless, he had abandoned this incision and had recently made use of an oblique incision which ran parallel to the costal arch. The objection that the oblique incision imperiled the usefulness of the muscles severed had not been verified by experience.

The President said that, as Dr. Lange had desired an expression of opinion as to whether a radical operation was indicated in the case where the disease was active in one kidney and quiescent in the other, he would say that his impression was that where both kidneys were involved radical operation was not deemed proper. While not knowing the exact condition of the kidney in which the disease was quiescent, it would seem dangerous to interfere with the other.

Some Remarks upon the Ætiology and Prognosis of Malignant Tumors from a Clinical Point of View was the title of a paper by Dr. F. S. Dennis. (To be published.)

Dr. F. Kammerer thought that they could all agree to the points urged by Dr. Dennis as to the tendency of malignant tumors to follow traumatism in some cases. The very cases which the author of the paper had described as due to irritation were really cases in point, because the irritation was a traumatism. Dr. Dennis had seemed to lean to the germ theory. The speaker hesitated to give his own views on this, but believed that in a few years we should be in a better position to discuss the question of whether malignant tumors were due to some form or other of specific germ. There were points in favor of such a theory, and others against it.

Dr. B. F. Curtis had seen an epithelioma occupying nearly the entire scalp of a girl ten years of age, which had originated when she was three years old in the ulcerating scar of an extensive burn received in infancy. He had also found a minute lymphatic gland with beginning carcinomatous changes at the base of a small lipoma over the sciatic nerve, the gland having been accidentally discovered after extirpation of the tumor. Parallel with these cases was a case of fibrocystic tumor of the breast, which showed after removal one minute spot of beginning carcinomatous change close to the wall of one of the cysts, the rest of the tumor being wholly benign. Such cases suggested at once the theory of irritation as a cause of malignant growths, but the theory did not explain why irritation was so common, but tumors so rare.

Dr. V. P. Gibney, referring to the statement made in the paper that these malignant growths sometimes took place from sinuses, said that he had never seen an instance of this kind. He had seen sinuses in all stages, and thought that in the two cases cited by the author of the paper there must have been some other cause which had not appeared in the history. When these malignant growths came from such apparently trivial causes as sinuses and lipomata, there must be some diathesis at the bottom of the trouble.

Dr. Kammerer said that, in the case of the tumor which had developed immediately after the fracture, perhaps the injury had resulted from the existence of a tumor in the bone, in which case the development of the growth was not due to traumatism. As to the development of tumors in sinuses, he had had an illustration of this during the past summer. The patient was an old woman who had a sinus leading into the medullary cavity of the tibia of many years' standing. From this sinus an epithelioma had developed into the medullary cavity, completely filling it.

Dr. Lange said that he did not quite believe in the existence of a characteristic cachexia in cancer. Cancer, unless it directly interfered with the alimentary canal or in some way caused a septic condition, was not a disease which gave the patient a peculiar look; not infrequently women with cancer of the breast in an advanced stage looked quite healthy.

Dr. Dennis said the patient to whom Dr. Kammerer had referred was a brakeman and a man of good health and fine physique. He had never known of a case in which, after operation for carcinoma, the disease had returned in the stump. He had seen it return very rapidly, and had seen almost every organ in the body carcinomatous. The great thing was to operate early, and remove the entire bone involved and any lymphatic glands in the vicinity.

Dr. Lange said that really very little was known about these diseases. It was very likely there were many shades of difference in the nature of these tumors which made them more or less malignant. Many tumors were removed which were called cancer that were really not so. It was in the clinical course of the disease that we must find the proof. It was their moderate nature that made recovery from them possible.

Cancer of the Kidney.—Dr. Kammerer presented a specimen of cancer of the kidney. The patient was a man of forty-six years, who had noticed an abdominal tumor for the last six months. This had gradually increased in size and had caused him much suffering of late. Now the tumor was of about the size of a man's head, occupying the right hypochondrium and the epigastric region, and was somewhat movable. It was evidently a kidney tumor from its location and from the position of the ascending colon on its anterior surface. It was so painful, especially when manipulated, that an operation was attempted. An incision was made in the median line allowing of the introduction of the entire hand. The tumor immediately presented with the colon on its anterior surface, the two layers of the mesocolon having been completely separated. The operator's hand could now be introduced far along the outer aspect of the growth, showing that the line of reflection of the peritonæum had not been pushed forward during its development. A larger number of vessels appeared under the outer layer than under the inner layer of the mesocolon, taking their course toward the gut. On this account, as well as on account of the firm attachment of the growth to the spinal column, an attempt to enucleate it from an incision through the outer layer of the mesocolon was not made. Microscopic examination showed the tumor to be a cancer.

Dr. Pilcher said he had had a similar experience. In attempting the removal of a large tumor of the right kidney he had found the mesocolon so extensively involved that the case did not admit of resection of the bowel with extirpation of the tumor. Subsequently the tumor had broken down both internally and externally, so that before the patient died, some months later, a fæcal fistula had formed.

Dr. Lange said that in only one case had he thought it well to attempt removal in these conditions, and then he had found the case so far advanced that it was impossible to remove all the macroscopically diseased portions. The patient was making a good recovery. This was some fourteen days ago, but in all his cases of extirpation he had chosen the lumbar incision. He had lately had occasion to see that pretty large tumors could be dug out by that route.

ROYAL ACADEMY OF MEDICINE IN IRELAND.

SECTION IN SURGERY.

Meeting of December 12, 1890.

The President, Mr. H. G. Croly, in the Chair.

The Treatment of Lupus by Koch's Method.—Mr. Thornley Stoker exhibited two patients in whom lupus had been treated by Koch's method.

Mr. Kendal Franks, in view of the great importance and interest attached to tubercular disease, inquired as to the original condition of the patients and the mode of treatment, including the number of inoculations.

Mr. Stoker said that the two patients exhibited were the only two he had been at liberty to bring, as the others were undergoing febrile reaction and could not be removed from bed. One of those shown, a female child, had lupus of some years' duration, involving the upper lip and opening of the nose, the cheeks, chin, and eyelids, and penetrating into the subcutaneous areolar tissue. On the 6th of December he had given an injection of two milligrammes of the liquid. It produced a moderate constitutional reaction, the temperature rising to between 101° and 102° F. At the same time there was severe local reaction. Most of the face, previously in a pale cicatricial condition, swelled and became livid red, assuming very much the appearance observed when erysipelas attacked the face, and vesication of the greater part of the diseased surface took place. The child did not suffer great constitutional disturbance, and the reaction subsided in twenty-four hours. The portion of the diseased surface that was superficial remained of a red color, but all the ulcerating process seemed to have ceased and the vesicles had scabbed. On the next morning he would give an injection of twice the strength given before—namely, four milligrammes. The other case was very remarkable as affording an example of a moderate dose of the liquid producing marked local reaction, and no constitutional reaction whatever. The patient, a man aged twenty-five, had had lupus since he was a child. It had not produced destructive ulceration of the skin, but had spread in a cicatricial fashion underneath the cuticle. The first dose injected was one of two milligrammes. As the result, in eight hours the whole of the lupus patch became red and blistered, and a circumferential areola of about three quarters of an inch became inflamed. The local reaction subsided in twenty-four hours. On the next day he had had a double dose—four milligrammes. There was a marked local reaction, but it was less than the first. Again there was no constitutional reaction whatever—no sickness, no rise of temperature, no headache. On the day before the meeting he got six milligrammes, when slight constitutional reaction took place, the temperature rising to about 100°, and he had a local reaction equal in degree to that following the second injection. The lupus patches were now dried up. He had given the injections either between the scapulæ or below the inferior angle of one scapula or the other.

Reports on the Progress of Medicine.

SURGERY.

By MATTHIAS L. FOSTER, M. D.

The Surgery of the Lateral Ventricles of the Brain.—The paper read by Dr. W. W. Keen at the Tenth International Medical Congress, a *résumé* of which appears in the *Lancet* for September 13, 1890, is a very valuable contribution to this subject. Three cases of operation performed by himself for the relief of effusion into the lateral ventricles were as follows: The first case was that of a boy four years old who was threatened with blindness from acute hydrocephalus. There were choked discs with retinal hæmorrhage and swelling; the swelling of the discs measured 2·30 mm. in each eye. A half-inch button of bone was removed an inch and a quarter behind the left meatus and the same distance above Reid's base line. The brain was punctured with a hollow needle, No. 5 French catheter scale, in the direction of a point two inches and a half vertically above the opposite meatus. At about an inch and three quarters the resistance ceased and cerebro-spinal fluid began to escape. Three stout horse-hairs, doubled, were then passed into the ventricle. No phenomena occurred during the operation. In two days the swelling of the optic nerves was 1·57 mm. and 1·63 mm. in the right and left eyes; on the sixth day 1·09 mm. in both. It had increased on the seventh day, and a tumor was sought for by probing, but was not found. On the fourteenth day a small rubber tube was substituted for the horse-hairs without pain or discomfort. The swelling of the discs fell until it reached 0·83 mm., but on the twenty-eighth day had again increased to 1·33 mm., and the child was restless. The right side of the skull was then trephined at the corresponding point and a drainage-tube passed into the lateral ventricle. On the thirty-second day the ventricles were irrigated from side to side with warm boric-acid solution, four grains to the ounce. As soon as this began the patient became quiet and said that "it felt good." About eight ounces passed into the ventricles and six were retained. Two days later this was repeated with plain boiled water with no ill effects but with less relief. A few days later the child was not so well, and died on the forty-fifth day. At the autopsy a sarcoma was found in the left lobe of the cerebellum, which had compressed the straight sinus and the veins of Galen and had encroached on the fourth ventricle. An exploratory puncture had passed through the tumor, which was too soft to be detected thereby. The cerebro-spinal fluid was perfectly clear, and the ventricles were greatly distended. The sinuses through which the rubber tubes had passed were not surrounded by an inflammatory zone.

The second patient, a boy three years and a half old, had suffered from hydrocephalus since a few months after birth. The left ventricle was tapped as in the first case, turbid fluid was withdrawn, and horse-hairs were inserted. On the fourth day the opposite ventricle was tapped and rubber tubes were inserted, which were closed by disinfected plugs of wood. These seemed to allow too free an escape of fluid, and convulsions set in the next day. Plain boiled water was siphoned into the ventricles and the spasm ceased as soon as the water began to flow in. On stopping the flow the convulsions recurred. The convulsions returned eight times, and were checked each time by the injection of from half an ounce to an ounce of fluid. The child died on the fifth day. An autopsy showed great hydrocephalic distention, but no injury from the operation.

The third was a case of tubercular meningitis with unilateral acute internal hydrocephalus of the left ventricle. The foramen of Monro was closed. There was right hemiplegia. The left ventricle was tapped through the arm center. The child was almost *in extremis*, and died four hours later.

After referring to the case of von Bergmann, he described two cases reported to him by letter by Mayo Robson. The first patient, a girl aged ten, had pain in the ear, followed in three days by discharge, which gradually lessened, but was present a month later, associated with rigidity of the neck and twitching of the right angle of the mouth. There was no vomiting, but there was slight mental disturbance. On admission to the hospital, her temperature was 105°, there was pain in the left side of the head, with paresis of the right arm and leg, gradually developing into complete hemiplegia and aphasia, and the optic discs were inflamed. The skull was trephined over the arm center; the dura was found healthy; the brain did not pulsate, but seemed to be compressed. Fruitless punctures in search of pus were made in various directions, and then the lateral ventricle was punctured and half an ounce of clear fluid drawn off. Pulsation then returned in the brain. The wound was closed without drainage. The next day there was slight power in the arm, soon after in the leg; on the third day she could answer simple questions, in a month the hemiplegia was gone, and six months later she was perfectly well.

The second case was that of an infant who was trephined for increasing hydrocephalus following the treatment of spina bifida by Morton's injection. A rubber drainage-tube was passed into the lateral ventricle, the escape of fluid was great, and the child died in convulsions on the third day. An autopsy showed that the brain had become greatly shrunken.

Reference was then made to the case of Ayers and Hersman which was greatly improved by the operation, making seven reported cases, of which two had ended in recovery. For a new operation in so extremely dangerous a condition he considers this to be far from discouraging.

Regarding hæmorrhage into the lateral ventricles, he quotes a case in which Dennis removed a clot as large as a pullet's egg. The patient died, but rather from the laceration of the brain by the original injury than from the operation.

Four fatal cases of rupture of abscesses into the lateral ventricles were quoted, then two cases of rupture of the ventricles by compound fracture, both of which ended in recovery, and then five cases of rupture from simple fracture in young children, three of which ended in recovery.

Finally he draws these conclusions:

1. Injuries involving the ventricles, the result of compound fracture, or of trephining, and involving great disturbance of the cerebral substance, are not necessarily fatal, for ten of the twenty-six cases here reported have ended in recovery. In these few cases compound fractures and extensive injuries, unless primarily fatal, seem to be less dangerous than rupture of the ventricles from simple fracture. They should be treated antiseptically in precisely the same manner as wounds in other parts of the body, by the establishment of asepsis, drainage, and the usual later treatment of similar wounds in other regions. If pus follows, or the cerebro-spinal fluid becomes dammed up, causing symptoms of pressure, incision and free drainage should be resorted to.

2. In cases of simple fracture involving the ventricles, experience would seem to indicate that it would be wise not to attempt any operative procedure unless threatening symptoms supervene. If it is necessary to interfere, it is recommended that the cyst containing cerebro-spinal fluid be continuously and slowly drained by a small bundle of horse-hairs rather than by freer evacuation. But it is believed that, in the majority of cases, constant pressure and but little active treatment would meet such symptoms as might arise. Possibly slight pressure would be all the treatment necessary.

3. Abscess of the brain bursting into the lateral ventricle has been thus far uniformly fatal and demands the promptest treatment possible. The suggestion made for instant bilateral trephining and irrigation of the ventricles can at least do no harm, although the possibility of its doing any good is but slight in so fatal a condition.

4. Hydrocephalus, whether acute or chronic, is usually a fatal disease.

5. Surgical procedures for tapping the ventricles for its relief are easy and certainly do not *per se* involve great danger.

6. Whether they will cure the disease is not as yet determined. In acute effusions, tapping, with or without drainage, as may be thought best, will certainly save some lives otherwise doomed to be lost, and in the chronic form long-continued slow drainage at an early period is at least worthy of trial, with a reasonable hope of success in a few cases.

7. The methods described for performing the operation, especially by the lateral route, might be resorted to with a view of determining the value of such surgical procedure.

8. After trephining and tapping of the ventricles, irrigation of the ventricular cavities from side to side not only is possible, but does no harm. In abscess involving the ventricle and possibly in other conditions, it may perhaps do good. The fluid used for such irrigation should not contain anything which, if retained and absorbed, might do harm. An artificial cerebro-spinal fluid or a simple boric-acid solution would seem to be the best for such use.

9. Convulsions, due to too rapid withdrawal of the cerebro-spinal fluid, may be checked by re-injection of an artificial cerebro-spinal fluid, or such other innocuous fluid as the circumstances may make available.

10. In either irrigation or injection of the ventricles it is probably desirable that the air should not enter, but such entrance of air does not seem to be productive of mischief.

11. In hæmorrhage into the lateral ventricles, at least of a traumatic origin, instant trephining and evacuation of the clots should be done, and in a few cases will probably be followed by a cure, unless the injury of the cerebral tissue is such as to be incompatible with life.

Hydatid Tumor of the Brain.—Graham and Clubbe furnish an account of what is alleged to be the first recorded case of recovery from cerebral hydatid in Australia (*Australasian Med. Gaz.*, July 15, 1890).

A boy, sixteen years old, after a good night's rest, awoke giddy and sick and with a severe frontal headache. Everything appeared misty, and during the same day he noticed that he was blind in his left eye.

Headache and vomiting kept him in bed four days; he then got up, but found his sight was very dim and that he could not lift his legs as easily as before. For two weeks his sight seemed to improve, but the weakness in his legs increased, and he had difficulty in using a knife with his right hand. On admission to the hospital, the patient's eyes were prominent, and the pupils were widely dilated and reacted but feebly to light. There was a faint perception of light in the right eye, but none in the left. Hearing, taste, and smell were normal. The superficial and deep reflexes were not altered, neither were sensation and muscular sense. The diagnosis of a tumor in the motor area of the brain was made and the skull was trephined over a spot corresponding to the upper part of the fissure of Sylvius. Before the button was removed the dura mater was punctured and pulsating jets of clear fluid escaped. The bone at this point was thinned to about a sixth of an inch, and, on removal of the button, the dura mater was found thickened. On incising this, a quantity of clear fluid escaped and a collapsed hydatid cyst was found lying at the bottom of a large cavity. This was seized with a forceps and removed, leaving the pia mater intact. The brain substance in the motor area had been beveled into a cup-shaped cavity, and, while exposed to view, made no effort to expand. Strict antisepsis was observed throughout the operation and dressing and the patient did well. He gradually but completely regained power in his right arm and leg, and eight weeks after the operation he was quite active. His mental condition had improved; the protrusion of his eyes, which was well marked before the operation, had nearly disappeared; the pupils were normal and reacted to light. Daylight appeared to him like a red light; at night everything was black.

Tumor of the Brain.—Bremer and Carson make a valuable contribution to the literature of cerebral surgery in a carefully detailed history of a case of angeioma cavernosum of the brain (*Am. Jour. of the Med. Sci.*, September, 1890). The symptoms existed over a period of three years, and commenced with a spasm localized in the muscles of the left arm and neck, which, in the early stage, occurred periodically twice a day. Later on the spasms occurred more frequently at irregular intervals. Six weeks after the first spasm a contracture of the left foot set in and hemiparesis became manifest, together with contractures. Gradually the right leg became plastic. The spasms attacked various groups of muscles nearly in a serial order, invariably starting in the neck. All of the symptoms grew progressively worse. Headache, vertigo, and mental hebetude were absent. The patient lacked initiative in conversation. Ophthalmoscopic examination revealed a beginning choked disc. Bromides in large doses did not arrest the spasms, but made the patient feel more comfortable. Strychnine and electricity aggravated the symptoms. Faradaic peripheral irritation of the left platysma myoides, and the transmission of an interrupted galvanic current through the motor centers on the right side, induced typical spasms. A strong faradaic current over the centers, the other electrode being in any place not particularly liable to spastic contraction, did not yield any results. Headache was produced by the passage of the galvanic current through the motor centers. An old scar, dating possibly from infancy, was found two inches and a half above and a little back of the external auditory canal, and was made the center of the trephine opening. As soon as the disc of bone was removed the dura mater bulged outward. This was slightly opaque, and the normal pulsation was absent. When the dura was removed the brain rapidly pushed outward until it protruded nearly an inch. The vessels of the pia were enlarged, turgid, and tortuous; the cortex was reddish brown and readily compressible, and rapidly refilled. The mass was very friable, and was scraped away very easily. It presented a mottled, dark-brown, yellowish, and partly gelatinous appearance. It was of about the size of a large walnut and involved both the cortex and subcortical region. Much blood was lost from a general oozing which could be controlled by pressure alone. Convalescence was uninterrupted. There was no return of the spasms, and only a slight spasticity remained in the legs, but there resulted loss of muscular and general sensibility in the left hand, with paralysis of the fourth and fifth fingers and of three quarters of the arm. At the time of the writing of the paper there had been a slow return of tactility and muscular sensibility. Microscopical examination of the tumor demonstrated it to be an angeioma cavernosum. A later history of the case is promised.

Aphasia due to Abscess of the Brain.—Saenger and Sick (*Deutsche med. Wochensch.; Ctrlbl. f. Chir.*, No. 40, 1890) report a case which is interesting because the location of the abscess in the posterior third of the left temporal lobe was diagnosticated by the presence of sensory aphasia. The patient, a man fifty years of age, seemed to be suffering from some psychical trouble. He did not answer the questions which were asked him, but simply pointed to his left ear, which was so much swollen that the external meatus was nearly closed. In three days this swelling had become sufficiently reduced to reveal the discolored drum membrane, through a perforation in which a small quantity of foul-smelling pus escaped. He lay silent and not appearing to notice, but when excited he talked much in incomprehensible language. He could not give the right name to objects, but, instead, gave a roundabout description of them. The pulse was slow, 48 to 56 a minute; he suffered from headache, periodical vomiting, and stubborn obstipation. Finally a right-sided facial paralysis appeared, together with a weaker power of pressure in the right hand. The wife of the patient said that her husband had for several years had a discharge from his left ear, and for the last fortnight had complained of pain in the ear and headache. From these circumstances—that there was a chronic suppurative inflammation of the middle ear, acute symptoms of pressure on the brain, and aphasic disturbance—the diagnosis of abscess of the brain in the posterior third of the first temporal convolution of the left side was made, and this diagnosis was confirmed by operation. The result of the operation was pronounced "ideal" nearly three months afterward in spite of a small hernia cerebri which complicated the convalescence.

The writers maintain that only two cases have hitherto been reported in which the diagnosis of abscess of the brain was made from the presence of aphasia.

Cerebral Disease resembling Tumor terminating in Recovery.—Dr. Handford (*Lancet*, Oct. 18, 1890) relates the clinical histories of four cases which are of much interest:

The first patient, a boy aged nine, had a history of phthisis on the mother's side. Two years before, he had had an abscess on the back of the neck. Soon after, his head began to enlarge and he became subject to severe headaches, with sickness and vomiting two or three times a week, usually in the afternoon. A year later he lost the use of his right leg. When seen he was in good general condition, free from pain, seldom with headache. He answered intelligently, and seemed contented. There was some rigidity of all his limbs, especially of the right leg. The superficial plantar reflex was exaggerated on the left side, diminished on the right. The ankle clonus was marked on both sides. There was no affection of sensation. The head was enlarged and heavy. The anterior frontal veins were enlarged and very full. The region of the anterior fontanelle was flat and appeared depressed. He complained of giddiness when lying on his back, and was unable to turn in bed. He had imperfect control over the rectum and bladder. Blindness was complete, with nystagmus in both eyes. The pupils were usually equal and dilated, sometimes moderately contracted; their reaction to light was very slight. The optic discs were very white; the ophthalmic vessels very small. He began to improve, and nine months later he was able to run about. Two years afterward he suffered from an attack of chorea and recovered. The rigidity of the muscles had then disappeared and there was no muscular wasting. The frontal veins were no longer prominent, and the head was relatively smaller. The nystagmus had disappeared and he had perception of light.

The second patient, a boy aged thirteen, after an injury to the head was subject to fits, complained of constant severe pain in the head, lost the use of the left arm and leg, and had imperfect control over the bladder and the rectum. He gradually became blind from neuroretinitis, which resulted in white atrophy of both discs. The highest temperature was 100·8°. He gradually regained the use of his limbs, but remained quite blind.

The third patient, a boy aged sixteen, had had very frequent severe attacks of frontal and occipital headache for about a year and a half, with no vomiting and no affection of speech. He began to lose the use of his legs about the same time, and for a year had been unable to stand, but did not at any time have complete paralysis. The arms were affected later and to a less degree. The knee-jerks were exaggerated, and there was ankle clonus in both limbs, most marked in the right. Common sensation and the sense of heat and pain were good everywhere. The plantar, epigastric, and cremasteric reflexes were very active. He had lost control over the bladder and rectum. His intelligence was fair and his memory good, but he was drowsy much of the time. Sight began to fail ten months before, and he had constant diplopia until he became totally blind. The optic discs were white and atrophied. There was slight nystagmus. No localized paralysis or spasm could be detected. Six months later he had recovered control of his muscles to a great extent.

The fourth patient, a boy aged eight, was seen at an earlier stage. For a month he had suffered from headache, chiefly in the left temporal region, with vomiting in the morning. For some weeks he had had difficulty in walking. In walking he swayed, and held the trunk and neck very stiff, with the head inclined to the right. The superficial reflexes were sharp; the knee-jerks slightly exaggerated. There was no localized paralysis. Extensive neuroretinitis was found in both eyes. Under treatment with iodide of potassium he recovered in a few months with preservation of sight.

Sabre-wound of the Skull and Brain.—The amount of ill treatment which the brain may occasionally receive without fatal consequences is again illustrated by a case of Ostroumoff's, an abstract of whose report is given in the *Annals of Surgery*. The wound measured over eleven centimetres in length, and occupied the left frontal region. It was situated slightly to the left of the frontal sinus, commenced a finger's breadth above the eyebrow, and opened sagitally, to end in the hairy area of the scalp. The wound gaped widely, and, after removal of the blood-clots, a considerable portion of the cerebral hemisphere bulged out, exposing the presence of a deep wound of the brain with everted edges. The hernia was reduced with the fingers under a jet of a three-per-cent. carbolic-acid solution, the parts were freely powdered with iodoform, and the cutaneous wound was closed with silk sutures, without drainage. Healing was by primary union. On the tenth day the patient got up. For several months, on palpation of the right edge of the cranial defect, there could be felt "a peculiar crackling sound, resembling that of a tree swinging to and fro in the wind," dependent probably on fissures in the bone. Later on this phenomenon disappeared. A year afterward the cranial defect was found to have considerably decreased. No morbid symptoms whatever, beyond some temporary initial anæmia, were observed at any stage of the case.

Sarcoma of the Sheath of the Optic Nerve.—Saltzmann has extirpated a tumor, of the size of a fist, which projected from the left orbit, covered by the greatly distended eyelids and completely including the globe of the eye, with the exception of the partially degenerated cornea (*Finska lakaresallsk. handl.*; *Ann. of Surg.*, September, 1890). On microscopic examination, it was found to consist of a small-celled sarcoma, which originated from the outer sheath of the optic nerve. The tumor had made its appearance at the inner canthus, after an injury of the globe twenty years before, and had gradually extended. Ophthalmoscopic examination of the diseased eye showed only a red reflex from the fundus.

Removal of a Large Piece of Iron from the Nasal Region.—Hinkle (*Univ. Med. Mag.*, May, 1890) reports a case in which the breech, trigger plate, and screw of a gun were removed four weeks after they were buried in the nasal region by the explosion of a gun. The trigger-plate was two inches and five eighths long and a quarter of an inch wide, the breech two inches and a half long and from a half to three quarters of an inch wide, and the screw holding these together was an inch and three quarters long. The mass had been driven into the skull at the point of junction of the frontal with the nasal bones, fracturing the nasal bones, vomer, and os planum of the ethmoid, passing back to the body of the sphenoid, and almost to its junction with the basilar process of the occipital bone. It lay between the eyes and under the orbital plate of the frontal bone, extending back to the cribriform plate and the body of the sphenoid. It was removed, and the patient made a good recovery in eighteen days, with no cerebral or meningeal complications. His mind and eyesight remain unaffected.

Fibrous Stricture of the Œsophagus.—Kendal Franks narrates the history of four cases of this nature (*Ann. of Surg.*, November, 1890). Two were treated by gradual dilatation with bougies, commencing with urethral bougies, and gradually increasing to the full-sized rectal instrument. In one case Otis's urethrotome was employed without the knife to dilate the stricture after it had been dilated sufficiently to admit of its introduction. The treatment in both of these cases extended over several months, the bougies being passed daily or every few days. Electrolysis was employed in the remaining two cases with equally good results in a much shorter time.

In the first case quoted recontraction was very slight after the lapse of eight years; in the second there was no recontraction after six years; in the third, none after three years. The last case was recent. The evidence of these cases is valuable, as they demonstrate the value of dilatation with bougies and electrolysis in a certain number of these cases which are acknowledged to be difficult to treat and often intractable. The evidence regarding the value of electrolysis in fibrous strictures of the œsophagus is at present very scanty.

A Calculus impacted in the Ureter.—Lane (*Lancet*, November 8, 1890) records a case in which he removed a calculus from the middle portion of the ureter. The patient, twenty-three years of age, had suffered for twenty years from recurring attacks of abdominal pain and hæmaturia, and an operation had been performed several months before by Mr. Lane, in which the kidney had been opened by a lumbar incision and the ureter explored, except in a small portion, about an inch in length, above the point which could be reached by the finger in the rectum. Subsequent laparotomy revealed the presence of the calculus in this portion of the ureter. It was small, hard, oval, and about three quarters of an inch long, and consisted of alternating layers of uric acid and urates.

Wound Treatment without Drainage.—Réczey (*Wiener med. Presse*; *Ctrlbl. f. Chir.*, No. 40, 1890) reports good success in the treatment of wounds without drainage. For such success he states that four factors are necessary, viz.: 1. Perfect asepsis during the operation. 2. Complete stoppage of all hæmorrhage. 3. Exposure of every portion of the cavity, if necessary, by means of a large incision. 4. An antiseptic dressing well applied and allowed to remain sufficiently long.

Cholesteatoma of the Middle Ear.—Habermann (*Zeitsch. f. Heilk.*; *Ctrlbl. f. Chir.*, No. 43, 1890) reports two cases confirmatory of his statement made two years ago regarding the origin of cholesteatomata of the middle ear from the epithelium of the external meatus. In one case, which proved fatal from meningitis dependent on otorrhœa, two cholesteatomata were found—one in the tympanum, the other in the mastoid antrum. Microscopical examination showed the connection of the formation with the epidermis of the external meatus. In the other case, which proved fatal by meningitis and abscess of the brain, the connection of a cholesteatoma, which filled the middle ear and mastoid antrum, with the epidermis of the external ear, was also clearly demonstrated.

Miscellany.

The Apollinaris Spring.—The Chicago *Inter Ocean* quotes the following from the London *Times*:

Apollinaris water is as familiar in millions of mouths as any household word. In the English translation, evidently made in Germany, from a German book on the mineral springs of the Ahr Valley, I find it stated that the mineral water from "the fountain Apollinaris is counted among the most luxurious drinks." Yet others than the spoiled children of luxury can afford to buy it, as the water is cheap as well as good, and the moderation of its price is one reason why the demand for it is great and increasing. It is not unworthy of note that an English company has the credit of having brought Apollinaris within the reach of all water drinkers. This company began its operations in 1873. The spring itself was discovered twenty-two years before.

There is a legend connected with the discovery of nearly every mineral spring of note. In many cases it is very difficult to ascertain the actual facts or to separate the grain of fact from the mass of fiction. That the thermal springs of Bath and Teplitz should have been discovered by pigs, and those of Carlsbad by dogs may be true, but the evidence is of doubtful value. There is no question, however, either about the way in which the Apollinaris Spring was found, or as to the place after which it was named. Herr George Kreuzberg, who lived at Ahrweiler, had a vineyard on the left bank of the River Ahr, at a short distance from the village of Neuenahr. He noticed that the vines would not flourish on a particular spot, and learned that carbonic-acid gas issued from the ground there. An eminent geologist, Professor Bischof, of Bonn, was consulted as to whether anything could be done in the matter, and he suggested that search should be made for a mineral spring, which might prove quite as remunerative as the most productive vines that the earth could produce. Accordingly a well was sunk, and at the depth of forty feet a spring was reached which rose to the surface with the force and effect of a small Icelandic geyser. This occurred in 1851. The Apollinariskirche is not far distant from the spring, which was named after it.

Chemical analysis showed a close resemblance between the Apollinaris Spring and those at Selters and Ems, while in one respect it differed from any one of those which were then in high repute. This consisted in its containing such an extraordinary proportion of carbonic acid as to cause the water to boil upward as if it had been forced from below under strong pressure. The volume of gas is so great that it is dangerous to approach the spring on a windless day. More than one fatal accident has been caused by approaching the spring and inhaling the gas. At the outset it was found difficult to bottle the water. However, a means was devised for doing so.

I have long had a desire to visit the spring, to drink the water on the spot, and to see the arrangements for bottling and exporting it, but that desire has only now been gratified. The English company, which has enjoyed the exclusive right to bottle and export the water since 1873, has resolutely objected to make the place one where visitors might enjoy a new sensation, and by their presence impede the operations. Besides, many precautions have to be observed lest a fatal accident might happen through inhaling the carbonic-acid gas with which the air near the spring is heavy and deadly. Birds that alight near it die almost immediately. I saw three dead birds lying within half a yard of the spot. The English managing director, having kindly made an exception in my favor, I have now examined everything that is to be seen at the Apollinaris Spring; I have drunk the water as it issues from the source, and I watched the process from the moment the water is pumped from the spring till it is bottled, corked, labeled, and packed for transmission to all quarters of the globe. The operations are many in number, and are carried on with an attention to detail which is beyond praise. Many difficulties have had to be surmounted, and the ingenuity displayed in overcoming them is highly creditable to all concerned.

The problem which had to be solved was how to bottle the water in such a way that all the carbonic-acid gas, which makes it sparkle, should be retained. As the temperature of the spring is 68° F., the tendency of the gas is to fly off on reaching the surface, and it is owing to the quantity of gas escaping where the spring rises from the ground that the surrounding air is mephitic. Without entering into mechanical details, I may concisely state that the process adopted consists in conducting as much of the gas as can be collected at the surface of the water to chambers, where it is compressed. The water is drawn from a depth of fifty feet below the surface and is elevated into tanks above the bottling house. This water and the natural gas are then brought together and mixed before entering the bottles, the result being that the bottled water is not only as pure, but as gaseous as the same water is far down in the rock through a fissure in which it ascends. Moreover, a part of the carbonic-acid gas is forced under pressure in each empty bottle so as to expel the common air before the water enters it, and thus the drinker of the bottled water is certain of obtaining the water in its purely natural state.

It is scarcely necessary to explain, I think, that artificially aerated waters contain carbonic-acid gas, but this gas is not a product of the chemistry of nature. There is no difficulty in making it; the puzzle is how to obtain it as pure as it is in its natural form. The artificial gas can be washed, and the manufacturers of the best artificial aerated waters take every precaution to insure the purity of the beverage which they supply; yet natural chemical processes are the only perfect ones, and the popularity of Apollinaris water is chiefly due to its irreproachable character. Though the water itself be so good, and the method of bottling it so complete, yet other things have an importance which is almost paramount.

The empty glass bottles are placed neck downward on a revolving table, and a stream of water is repeatedly forced into each under high pressure as the table moves round. A woman is stationed at one side of the table to watch each bottle, when empty and before being taken off, and see whether any impurity remains. As an electric glow light is behind the bottle the slightest speck in the glass can be detected by her at a glance. The stone bottles are kept filled for twenty-four hours, and if any leakage is perceptible they are broken up, and they are repeatedly washed before being filled with mineral water. Though the water forced into them is the same as that in the glass bottles, yet, as they can not be corked with the same lightning rapidity, a portion of the gas escapes, and thus the water when poured out of them is less sparkling.

A few statistics will probably have greater attraction for those who have read what has been written; indeed, the figures in this case are more eloquent than any phrases. It was in 1873 that the Apollinaris Company began operations, and in that year the number of glass and stone bottles filled and exported was a little under 2,000,000. Last year the number was nearly 10,000,000, and orders have been given for a still larger supply of bottles in expectation of an increasing demand next year. The corks used last year weighed fifty-seven tons. These figures are gigantic, and were I not certain of their accuracy I should not give them. I was quite prepared for hearing that the total amounts were extraordinary, as I took pains to estimate the speed at which the bottles were filled during my visit, and found that the filling went on at the rate of 90,000 a day. Four hundred and fifty persons are engaged in the several operations.

The question may be put by others which I put after visiting the Apollinaris Springs: "Should the demand continue, can the supply keep pace with it?" Careful tests have been made, which demonstrate that the existing supply is adequate for filling 40,000,000 quart bottles yearly. When the demand is in excess of these figures, then the Apollinaris Company may have to sink a second well. It is quite clear, however, that the Apollinaris Spring yields enough water not only for present requirements, but also for those of a future which is still remote.

The New York Academy of Medicine.—At the next meeting of the Section in Ophthalmology and Otology, on Monday evening, January 19th, after the nomination and election of officers and the presentation of cases, Dr. J. B. Emerson will read a paper entitled A Contribution to the Study of the Treatment of Detachment of the Retina, and Dr. David Webster one on Puncture of the Globe with Graefe's Knife for Detachment of the Retina.

At the next meeting of the Section in General Medicine, on Tuesday evening, January 20th, after the nomination and election of officers, Dr. R. C. M. Page will read a paper on Phthisis: its Classification, Early Diagnosis, and Relation to Chronic Pneumonia, and Dr. W. P. Northrup will read one on Tuberculosis in Children: Primary Infection in Bronchial Lymph Nodes, and will present a series of illustrative cases. The paper will be discussed by Dr. Prudden, Dr. Biggs, Dr. Trudeau, Dr. James, and others.

At the next meeting of the Section in Obstetrics and Gynæcology, on Thursday evening, January 22d, after the nomination and election of officers and the presentation of specimens and instruments, Dr. A. F. Currier will read a paper entitled Under what Conditions can Electricity be of Positive Service to the Gynæcologist, and Dr. A. H. Goelet one on The Treatment of Menorrhagia and Metrorrhagia by the Galvanic Action of the Positive Pole.

At the next meeting of the Section in Laryngology and Rhinology, on Tuesday evening, January 27th, after the nomination and election of officers and the presentation of cases and new instruments, there will be a discussion on the laryngeal aspect of Koch's method.

Meetings of Medical Societies for 1891.—We are enabled to make the following announcement of places and dates, in the order of their occurrence, of meetings of the various State and national medical societies, from information furnished by the secretaries of the respective societies:

Medical Society of the State of New York, Albany, February 3d, 4th, and 5th; South Carolina Medical Association, April (date and place not known); Florida Medical Association, Pensacola, April 14th and 15th; Medical Society of the State of Tennessee, Nashville, April 14th, 15th, and 16th; Medical Association of the State of Alabama, Huntsville, April 14th, 15th, 16th, and 17th; Mississippi State Medical Association, Meridian, April 15th, 16th, and 17th; Medical Association of Georgia, Augusta, April 15th, 16th, and 17th; Iowa State Medical Society, Waterloo, April 15th, 16th, and 17th; Medical Society of the State of California, Sacramento, April 21st, 22d, and 23d; Medical Association of Montana, Helena, April 24th and 25th; Medical and Chirurgical Faculty of Maryland, Baltimore, April 28th, 29th, and 30th; Texas State Medical Association, Waco, April 28th, 29th, and 30th, and May 1st; State Medical Society of Arkansas, Hot Springs, April 29th and 30th, and May 1st; Medical Society of the State of Washington, Seattle, May 6th, 7th, and 8th; Missouri State Medical Association, Excelsior Springs, May 12th, 13th, and 14th; Indiana State Medical Society, Indianapolis, May 13th, 14th, and 15th; Kansas Medical Society, Wichita, May 13th, 14th, 15th, and 16th; Illinois State Medical Society, Springfield, May 19th, 20th, and 21st; West Virginia State Medical Society, Fairmont, May 20th, 21st, and 22d; North Carolina State Medical Society, Asheville, May 26th, 27th, and 28th; Connecticut Medical Society, Hartford, May 27th, 28th and 29th; Kentucky State Medical Society, Lexington, May (date to be fixed); Nebraska State Medical Society, Lincoln, May or June (date to be fixed); Pennsylvania State Medical Society, Reading, June 2d, 3d, 4th, and 5th; State Medical Society of Wisconsin, Madison, June 3d, 4th, and 5th; Delaware State Medical Society, Rehoboth, June 9th and 10th; Maine Medical Association, Portland, June 9th, 10th, and 11th; Massachusetts Medical Society, Boston, June 9th and 10th; South Dakota State Medical Society, Chamberlain, June 10th, 11th, and 12th; Rhode Island Medical Society, Providence, June 11th and 12th; Michigan State Medical Society, Saginaw, June 11th and 12th; New Hampshire Medical Society (centennial), Concord, June 15th and 16th; Colorado State Medical Society, Denver, June 16th and 17th; Ohio State Medical Society, Put-in Bay, June 17th, 18th, and 19th; Minnesota State Medical Society, Minneapolis, June 18th, 19th, and 20th; Medical Society of New Jersey, Long Branch, June 23d and 24th; Vermont State Medical Society, Burlington, October 15th and 16th; Mississippi Valley Medical Association, St. Louis, October 14th, 15th, and 16th; Tri-State Medical Association of Tennessee, Alabama, and Georgia, Chattanooga, October (date to be fixed); Tri-State Medical Association of Mississippi, Arkansas, and Tennessee (date and place to be fixed); Medical Society of Virginia, Lynchburg, October 27th, 28th, and 29th (subject to change); New York State Medical Association, New York, October 28th, 29th, and 30th; Louisiana State Medical Society (place and date to be determined).

National Associations.—American Academy of Medicine, Washington, May 2d and 4th; American Medical Association, Washington, May 5th, 6th, 7th, and 8th; National Association of Railway Surgeons, Buffalo, May 7th, 8th, and 9th; American Gynæcological Society, Washington, September 15th, 16th, and 17th; American Orthopædic Association, Washington, September 15th, 16th, and 17th; American Association of Andrology and Syphilology, Washington, September 22d, 23d, and 24th; Congress of American Physicians and Surgeons, Washington, September 22d, 23d, 24th, and 25th; in connection with this congress will be held the meetings of the American Climatological Association, American Ophthalmological Society, American Otological Society, and American Neurological Association; American Dermatological Association, Washington, September 22d, 23d, 24th, and 25th; American Surgical Association, Washington, September 22d, 23d, 24th, and 25th; American Laryngological Association, Washington, September 23d, 24th, and 25th; American Physiological Society, Washington, September 25th and 26th; American Pædiatric Society, Washington, September (date to be fixed); Southern Surgical and Gynæcological Association, Richmond, November 10th, 11th, and 12th; American Association for the Study and Cure of Inebriety, New York, November 12th; American Public Health Association, Kansas City, November (date to be fixed); American Association of Obstetricians and Gynæcologists (date and place to be fixed).

Congenital Absence of the Fifth Metacarpal Bone and of the Little Finger.—Mies (*Arch. f. path. Anat. u. Physiol. u. f. klin. Med.*, August, 1890) reports a case which came under his observation in which there was a complete absence of the fifth metacarpal bone and phalanges of the right hand. This the patient declared to be congenital, and not due to any known accident either before or after birth. No scar could be found on the ulnar border of the hand, and no trace of the missing bones. The middle and ring fingers were considerably larger than the corresponding fingers of the left hand; the thumb and forefinger somewhat smaller. The web between the fore and middle fingers reached to the middle of the first phalanx of the middle finger, that between the middle and ring fingers almost to the junction of the middle and distal thirds of the ring finger. There was no other malformation present.

To Contributors and Correspondents.—*The attention of all who purpose favoring us with communications is respectfully called to the following:*

Authors of articles intended for publication under the head of "original contributions" are respectfully informed that, in accepting such articles, we always do so with the understanding that the following conditions are to be observed: (1) when a manuscript is sent to this journal, a similar manuscript or any abstract thereof must not be or have been sent to any other periodical, unless we are specially notified of the fact at the time the article is sent to us; (2) accepted articles are subject to the customary rules of editorial revision, and will be published as promptly as our other engagements will admit of—we can not engage to publish an article in any specified issue; (3) any conditions which an author wishes complied with must be distinctly stated in a communication accompanying the manuscript, and no new conditions can be considered after the manuscript has been put into the type-setters' hands. We are often constrained to decline articles which, although they may be creditable to their authors, are not suitable for publication in this journal, either because they are too long, or are loaded with tabular matter or prolix histories of cases, or deal with subjects of little interest to the medical profession at large. We can not enter into any correspondence concerning our reasons for declining an article.

All letters, whether intended for publication or not, must contain the writer's name and address, not necessarily for publication. No attention will be paid to anonymous communications. Hereafter, correspondents asking for information that we are capable of giving, and that can properly be given in this journal, will be answered by number, a private communication being previously sent to each correspondent informing him under what number the answer to his note is to be looked for. All communications not intended for publication under the author's name are treated as strictly confidential. We can not give advice to laymen as to particular cases or recommend individual practitioners.

Secretaries of medical societies will confer a favor by keeping us informed of the dates of their societies' regular meetings. Brief notifications of matters that are expected to come up at particular meetings will be inserted when they are received in time.

Newspapers and other publications containing matter which the person sending them desires to bring to our notice should be marked. Members of the profession who send us information of matters of interest to our readers will be considered as doing them and us a favor, and, if the space at our command admits of it, we shall take pleasure in inserting the substance of such communications.

All communications intended for the editor should be addressed to him in care of the publishers.

All communications relating to the business of the journal should be addressed to the publishers.

THE NEW YORK MEDICAL JOURNAL, JANUARY 24, 1891.

Original Communications.

THE CONDITION KNOWN AS "CHORDITIS TUBEROSA."*

By CLARENCE C. RICE, M. D.,

PROFESSOR OF DISEASES OF THE NOSE AND THROAT AT THE NEW YORK POST-GRADUATE MEDICAL SCHOOL AND HOSPITAL.

THIS pathological condition of the vocal apparatus is of interest to the laryngologist because it occurs frequently in public speakers, singers, and actors. It always produces some degree of impairment of the voice, and, as it is a lesion which it is difficult to eradicate, it is well to appreciate its existence and to treat it intelligently.

Not much has been written about it. Most authors have been satisfied with brief mention of this condition as one of the manifestations of chronic catarrhal laryngitis.

Türck's† description of this lesion, to which he gave the name "chorditis tuberosa," is comprehensive. He says he had noticed four cases of this peculiar inflammation of the vocal bands in singers, and he gives this description of the appearance of the larynx: Midway in the upper plane of the bands there is a peculiar uneven surface, and, in addition to redness and swelling, some white opaque spots as large as poppy seeds. These white spots, he says, become more noticeable as the general congestion subsides. He believes this peculiar lesion to be due to inflammation of the mucous glands.

It is somewhat difficult to determine whether Virchow ‡ is not describing the same pathological condition in his article on Pachydermia of the Larynx. Certainly the appearances of the vocal bands in the earliest stages of pachydermia, as Virchow sees them, are quite similar to the nodules of chorditis tuberosa. Later the infiltration and swelling are much greater in what he designates pachydermia than we see in chorditis tuberosa. According to Virchow, the condition occurs in aged drinkers and is caused by shouting. He says the swelling is at first localized in the middle of the vocal bands. There are raised points with tissue-thickening about them, the raised points being the swelling of the squamous epithelium and the papillæ. The surface of the affected band or bands is covered with a whitish membrane consisting of proliferating epithelial cells. The process he believes to be due to long-continued congestion, not an irritative one—a hyperplastic process. He thinks it can not consistently be called a chronic catarrh of the larynx, as there are neither mucus nor pus-corpuscles. In his description of the later appearances of the larynx we do not recognize any similarity to chorditis tuberosa. I am not familiar with chorditis tuberosa in "aged drinkers." My cases have all been in young adults and in singers of temperate habits. And the thickening extending from the vocal bands, both above and below, forming polypoid enlargements, as Virchow pictures the later lesions, I have not seen in chorditis tuberosa. Virchow's pachydermia, in its later stages at least, resembles much more closely that trachomatous or scleromatous condition of the vocal bands seen in long-standing cases of chronic catarrhal laryngitis, occasioned by excessive drinking and smoking, and in which strong astringent applications have been liberally employed.

While it is true that in a small percentage of the cases which come under observation this nodular enlargement on the vocal bands develops at a late stage of a chronic catarrhal process of the larynx—a secondary hypertrophy following a long pre-existing congestion of the vocal bands—far more frequently, I believe, the nodular enlargement is primary, and the congestion and thickening and failure of approximation of the vocal bands is secondary.

The irritation caused by the constant friction of the nodular enlargement with the opposite band, and the extra exertion necessary to produce a true tone in singing or a clear voice in speaking—these cause a form of traumatic congestion with hyperplastic changes, and eventually an exhaustion of the adductors and tensors of the bands.

During the last two years I have seen eight cases of chorditis tuberosa. Six of these cases were in singers; the remaining two cases were in people who used their voices more than in ordinary conversation—one a Hebrew, who read aloud some religious ceremony every week, and the other a foreman of a large number of laborers, who was in the habit of shouting to his men. The six singers were all women and sopranos. It would be interesting to know how many cases of chorditis tuberosa have been seen in people who do not sing or who do not use the voice except in ordinary conversation. I have never seen such a case. This may be due to the fact that none but singers, actors, public speakers, etc., go to a physician on account of the moderate hoarseness which the nodule on the vocal band produces. It is my belief, however, that this nodule is produced by excessive use of the voice in singing and public speaking, and that it is attributable largely to *a faulty method of singing, or a bad manner of using the voice.* It is a significant fact that six of the eight cases observed were singers, and sopranos, where, as we know, the highest tension and the most rapid vibration of the bands are required during singing. In writing the histories of these six cases, I paid some attention to the manner in which the voice had been used, and it seemed to me significant that two of the patients, young women of twenty years, were in the same class at a grand conservatory of music where only the true Italian method was taught. During vocalization in both of these cases, as the scale was ascended, the epiglottis was carried farther downward and backward with each note and the larynx was compressed more and more. One of these women could sing only a short time without becoming quite hoarse. After changing her teacher and using her voice in a different manner, she could sing and does sing every night at a theatre, and sings fairly well too, and there is still some nodular enlargement on one of the bands.

One of my six patients—an operatic singer of great reputation—stated the pathology of the condition known as "chorditis tuberosa" quite accurately when she said, after I had described to her the laryngoscopic appearances, "Why, I should say I had corns on my vocal bands." And that I believe is the pathological condition which is present in these cases—a "dermoid metamorphosis," as Ziemssen* puts it, the trachomatous condition alluded to by Mackenzie.† Wedl, who examined a number of specimens microscopically, found only connective-tissue hypertrophy with heaps of nuclei. I have had sections from two nodules examined, which were removed from the vocal band by a small snap guillotine, and the result, which was the same in both cases, was connective tissue and epithelial elements in largely increased numbers.

---

* Read before the American Laryngological Association at its twelfth annual congress.

† Türck, *Klinik der Krankheiten des Kehlkopfes*, Wien, 1866, p. 164 (or s. 204).

‡ Virchow, *Verhandlung der Berlin. med. Gesellschaft*, reported in *Berliner klin. Wochenschrift*, 1883, No. 21.

These nodular enlargements are produced by the friction of the free edge of one band against that of the other where the voice is used a great deal, and where the tension of the bands is unevenly controlled because of a faulty method of using the laryngeal muscles; just as the outer layers of the skin of the foot are hypertrophied by the friction of an ill-fitting shoe. Contrary to the teaching of many writers, I believe that the nodular enlargement is the primary lesion; and the pathological appearances of the bands which follow—such as congestion and general thickening, by reason of which these cases have been improperly classed among those of chronic laryngitis—these are secondary lesions and are directly dependent upon the nodular enlargement.

"Chorditis tuberosa" should not be confounded with the uneven surface of the vocal bands seen in long-standing cases of simple chronic chorditis, where the vocal apparatus has been abused for many years, and strong astringents or caustics have been so frequently applied to the larynx that little normal mucous covering remains.

The terms "trachoma" and "scleroma" are more appropriately applied to the uneven, rough, granular condition of the vocal bands, as seen in the above cases, than to the condition known as "chorditis tuberosa." Chorditis tuberosa may be the cause of a general trachomatous condition. Chorditis tuberosa should also be differentiated from the cicatrices of tubercular and syphilitic ulcers or from granulation tissue springing therefrom, and also from benignant growths attached to the vocal bands.

The nodular enlargements may be situated upon one or both bands. In five of the eight cases I have seen, the nodule was on the left band. It is usually located a trifle more anteriorly than midway between the vocal processes and the anterior insertions of the vocal bands. (Fig. 1.) And it is probable that at this point the friction between the bands is greatest. A nodular enlargement on one band, if the voice is persistently used in singing or speaking, in time produces some alteration in the tissue of the other band at the point of contact. Sometimes there is an appearance of depression in the vocal band just opposite the nodule into which the protruding point fits. (Fig. 2.) If this depression is examined carefully, the covering will present a roughened appearance, a callous spot which has been produced by the protruding point on the opposite band. This callous depression is really raised above the normal surface of the vocal band; but a concavity exists because the edges about the depression are elevated to a still greater degree. After the nodule has existed for some time the depression on the second band is sometimes filled, and later gives place to a second nodule. Two nodules are now seen striking against each other, and the bands are by just so much more prevented from approximating during phonation. If these nodules are not removed, and if the person is allowed to continue singing, the irritative friction and the increased effort of the intrinsic laryngeal muscles necessary to bring the bands together cause a congestion and thickening of the entire substance of the bands, which it will be very difficult to dissipate by the most judicious of local treatment. If a very careful examination of one of the nodules is made in its earliest stages, the mucous membrane covering it will seem to be unaltered, and the millet-like nodule seems to be wholly situated in the substance of the band, and, as it develops, pushes the mucous membrane in front of it.

In one of my cases I found the nodular enlargement associated with the condition known as chorditis inferior hypertrophica. The nodule was probably primary and was the cause of the subglottic thickening.

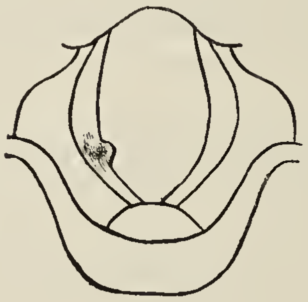


FIG. 1.

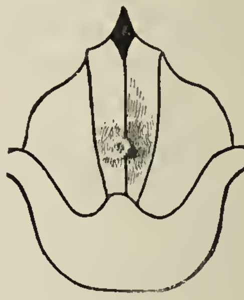


FIG. 2.

The sole symptom of this condition is at first impairment of the voice, the degree depending upon the size of the interposing nodule and the secondary or resulting inflammatory changes in the vocal bands. The degree of hoarseness in singing will also depend upon the skill with which the vocal apparatus is employed. We all know how well some singers vocalize with greatly altered vocal bands.

In no laryngeal disorder must the treatment be more painstaking. Skillful manipulation will be required to eradicate the condition known as "chorditis tuberosa." These cases should be treated as early as possible before the second band has been injured by the protruding nodule on its fellow, and before the bands have become congested, thickened, and stiffened, and the vocal tensors exhausted beyond recovery. These patients should not be allowed to sing or to use their voices except in quiet conversation. There should be no exception to this rule. The patient must rest not only until the nodular enlargement is smoothed down, but until congestion has abated and the muscular tone of the larynx is restored. Hoarseness quickly returns if the patients are permitted to use the voice when they are only half cured.

The local remedies are not many which are of use in the judicious treatment of chorditis tuberosa. The nodule must be eradicated first of all. Time can be saved in some of these cases where the nodule is large enough by snipping it off to the plane of the free edge of the band. I have used successfully a small circular snap guillotine knife, the circle about a quarter of an inch in diameter. With the aid of cocaine this circle can be placed around the nodule and the band pressed up against the lateral wall of the larynx before the knife is sprung. This instrument can be used more delicately than a laryngeal forceps and with less damage to the bands. After the nodule has been cut off even with the surrounding surface I have found a solution of zinc chloride, from twenty to forty grains to the ounce, of more benefit than the silver solution, in that it heals the ulceration left by the knife with far less cicatrization than does the silver. A thirty-grain solution of zinc chloride applied exactly to the base of the nodule after its excision has, in my experience, prevented its regrowth. A milder astringent solution, either ten grains of zinc or silver, should be used at home by the patient every day for weeks. When the entire substance of the bands is congested and thickened, absorption can be more rapidly effected with a solution of iodol or iodoform in ether (ʒ j to ℥ j) than with astringents. Cocaine as an astringent has not received the credit it deserves. A two-per-cent. solution used twice daily does more than temporary good by expelling the blood from the bands. The faradaic or galvanic current will be useful and necessary in restoring tone to the laryngeal muscles. Finally, after the bands have been made as nearly normal as possible, we should insist that our patient, if he is a singer, put himself under the instruction of a proper teacher. We can easily learn the names of those teachers who have developed successful singers, and we can warn our patients against the instruction of those teachers whose pupils can never sing without becoming hoarse. This advice is imperative if we would cure this class of patients. A faulty method of using the voice will bring back in a short time the catarrhal conditions which we may have been months in curing, and even the nodule itself. As it is necessary after an operation for strabismus that a patient should be fitted with glasses which will correct the error of refraction that has occasioned the necessity of cutting the ocular muscles, so it is imperative that we should forbid the continuance of that faulty manner of using the voice in singing or speaking which has occasioned the nodular enlargements on the vocal bands.

---

* Ziemssen, *Cyclopædia Practice Med.*, vol. iv, p. 217.

† Sir Morell Mackenzie, *Dis. of Throat*, vol. i, p. 294.

The points I would place emphasis upon are these :

1. The condition known as "chorditis tuberosa" is not always or often one of the pathological changes to be classed among those of chronic catarrhal laryngitis, but it is itself the primary lesion.

2. The presence of this nodule is the direct cause of the catarrhal changes in the larynx which appear later.

3. This condition is almost always found in singers or public speakers, and is occasioned to a great degree by a faulty method of using the voice—a callus occasioned by attrition of one band against the other.

4. Chorditis tuberosa occurs more frequently in women than in men, and is seen most often in sopranos.

5. A nodular enlargement will in time produce change in the second band at the point of contact, and

6. These nodules should be removed as early as possible, singing should not be allowed until the bands are normal, and faulty methods of using the voice should be forbidden.

125 East Nineteenth Street.

BRANDT'S SYSTEM IN GYNÆCOLOGY.*

By HIRAM N. VINEBERG, M. D.,

FORMERLY INSTRUCTOR IN GYNÆCOLOGY AT THE NEW YORK POLYCLINIC.

Any one following German medical literature for the past three years would be struck with the number of papers on the subject of Major Thure Brandt's method of treating pelvic affections. He would also be struck with the almost uniformly favorable opinion expressed by the writers as well as with the published results, which, in many instances, were so brilliant as to excite incredulity. But if he were desirous of putting the method into practice, he would despair of doing so from the descriptions found in journals and in monographs. His despair would only increase with each succeeding article, which would reiterate the assertion that the method was not to be learned from reading, notwithstanding the inconsistency that the article would contain a lengthy description of it. As the writer has steered clear of Charybdis, he will try to avoid running against Scylla, and will make no attempt to describe the method.

It will be his purpose in this paper merely to place on record the observations and impressions gained during a course of several weeks with Major Thure Brandt. During that time he witnessed Thure Brandt work for three or four hours daily, and was himself enabled to carry out the various manipulations under the master's instruction and supervision.

Just here the writer would like to express his deep sense of obligation to Dr. H. Boldt, of this city, for his kind introduction, and to convey to Major Thure Brandt his gratitude and thanks for the kindness and untiring pains he took in teaching his method and for providing opportunities for putting it into practice.

It may not be uninteresting to give a short sketch of the pioneer of pelvic massage, and to outline the history of the system from its beginning to the present day.

Brandt was a pupil of Branting and Georgi, and graduated from the Royal Central Gymnastic Institute of Stockholm in the autumn of 1842. Here he acquired a good knowledge of coarse anatomy and the method of treating various diseases by the Swedish movements. For the next two years he acted as extraordinary teacher at the institute. He then received an appointment at the Norrköping Institute, where he had a great number of female patients to treat, and where he laid the foundation of his knowledge of the different complaints common to women, which stood him in good stead in after years. In 1847, while sergeant in the army, a soldier came to him with prolapsus ani. The medical officer being absent, the young sergeant set his brains to work as to how he could give relief to the sufferer. He brought the anatomy of the parts before his mental vision, and thought if he could only seize the bowel from above, he would be able to pull back the protruding rectum into its proper position. The patient was placed on his back in the lithotomy position, the bowel seized at the S. romanum, and with gentle traction and vibratory movements the prolapsed anus was easily reduced, to the great surprise of the operator and to the wonder of the onlookers. In 1859 a small work fell into Brandt's hands, which mentioned incidentally the great frequency of prolapsus uteri among the women in Dalecarlia. His fertile and inventive brain at once set to thinking why a protruding uterus could not be brought back to its position by traction from above in the same way as a protruding rectum. This thought led to the study of the anatomy of the uterus and its supports in such books as he could get. The idea had eighteen months to ripen and gather strength before an opportunity presented itself in which he could subject it to practice. It was in 1861 that this opportunity occurred to him.

---

* Read before the Metropolitan Medical Society, January 7, 1891.

The patient was forty-seven years of age, and had suffered with a prolapsus for twenty-seven years, which for the last three years had been complete. Daily treatment for fourteen days resulted in a cure which proved to be permanent. The patient lived for twenty-three years after this and had no return of her affliction, the uterus remaining high up in the pelvis.

A few days after this woman had been cured two other peasant women, suffering also from total prolapsus, presented themselves for treatment. Both were cured in the course of a few weeks. One of these patients had a normal labor a year afterward, and, in spite of hard work in the field, the prolapsus has not returned to the present day, for the woman is still living.

It may be easily conceived that the news was not long in reaching the four corners of the small kingdom. Before many years had lapsed, patients from the remotest parts of the land flocked to Brandt for treatment. It was not long before he had as many as from a hundred to a hundred and twenty patients to treat daily.

Brandt had seen many stiff and useless joints rendered supple and useful under the influence of massage, and many inflammatory exudations about the joints disappear while the treatment was being carried out. Why could not a fixed uterus and exudations about the uterus be cured in the same way? These thoughts had been fermenting for some time when, in 1865, he subjected them to a practical test, with the most gratifying result. About this time he had perfected a complete system of manipulation for the reposition of displaced and adherent uteri, but more especially for retroflexed and retroverted uteri with adhesions, which formed by far the greatest number of displacements he had met. A year later he began to loosen displaced and adherent ovaries and tubes, and to attempt the absorption of chronic exudations in the pelvic cavity.

Brandt displayed from the first the temper of a scientific man, showing a readiness to benefit by his own observations and criticisms, deriving valuable lessons from his failures, and exhibiting a willingness to learn from others. Unless he was advancing he was not satisfied. To him, to remain stationary was going backward. His conscientious and clear perception prevented him from falling into the error common to laymen when they enter the field of medicine; because he could cure some cases was no reason to him that his method was a panacea for all the ills peculiar to womankind. Time and again, after examining a woman, he would honestly say the affection was beyond his powers, or that there were other means that would more readily bring about the desired cure. One can not eulogize him too highly for these traits. Even the trained medical mind is only too prone to be the dupe of its own workings. From the outset of his career, Brandt showed that he was not a mere quack who had learned a few practical points which he was turning to his own selfish ends, but from the beginning he exhibited the spirit and zeal of a benefactor of his race. He knew his method could do and was doing good to suffering womankind, and this for him was an all-sufficient incentive to promulgate it so that the good could be increased a thousand-fold. But, to the shame, it must be said, of the medical profession in Norway and Sweden, the overtures of the layman were met with cold narrowness and disdain and at times with heartless cruelty. This did not, however, drive Brandt, as it would have driven a lesser man, to associate himself with laymen, few or none of whom possessed his honesty of purpose, knowledge, or powers of observation. Either his method should spread through proper and trained channels, or die with him. A few, however, of the Scandinavian physicians possessed the breadth of view and generosity to recognize worth, no matter from what source. One of these was Dr. Sköldberg, one of Stockholm's most capable gynæcologists, and a teacher in the medical school. This physician, after having several times seen Brandt manipulate, and having watched the results, took every occasion to speak favorably of the method and to practice it himself. At his urgent appeal, Brandt, in 1872, removed to Stockholm. The pioneer's hopes were now beginning to brighten. He was now about to enter the scientific circle for which he had shown such inclination and aptitude. But, unfortunately, about this time Dr. Sköldberg died and Brandt found himself again a lonely traveler on a difficult and rugged path. Still this did not deter him from pursuing his work faithfully, although as the years gathered over his head the hope of ever seeing a realization of his fond dreams began to flicker and die out.

In the summer of 1885, when the span of threescore and ten allotted to man had nearly been reached (Brandt was then sixty-seven years of age), an incident occurred which, like the touch of a magician's wand, made an oasis spring up in the center of the lonely desert. The incident referred to was the following: A wealthy Swedish merchant, with business connections all over Europe, whose wife and daughter had been successfully treated by Brandt for serious womb trouble, became interested in the method and was anxious that it should be made known in other countries. Through his efforts a young promising physician from Vienna, Dr. Profanter, came to Stockholm and worked under Brandt for several months. Though skeptical at first, it was not long before the young physician, in watching the results, became an enthusiastic believer in the efficacy of the method in the various forms of pelvic disease. Dr. Profanter, on his return to Vienna, made a proposal to Brandt and to Dr. Nissen, of Christiania, who had studied under Brandt for a long time, and who had for years devoted himself entirely to pelvic massage, to subject the method to the observation and criticism of a recognized authority in gynæcology. After a protracted correspondence, Brandt, his assistant, Miss Jonasson, and Dr. Nissen, came to Jena, where they remained for three months, treating a number of cases in Professor Schultze's clinic under the close scrutiny of that distinguished and world-renowned gynæcologist. Professor Schultze carefully examined each case before, during, and after treatment, and made full notes of the general and local conditions. The full reports of sixteen cases were published by Profanter, with an introduction from Professor Schultze. In this introduction Professor Schultze said that he was thoroughly convinced of the efficacy of Brandt's method in loosening and stretching old parametritic adhesions and of its power of restoring to the normal condition the supports of the uterus which had become relaxed or weakened; and further that he had no hesitancy in asserting that in Brandt's method we had gained a valuable addition to our therapy of pelvic affections, a method which could in many instances be substituted with advantage for other methods now in vogue, and in other instances would form a valuable adjunct to the usual operative or mechanical means of treatment. This article appeared in February, 1887, and, although scarcely three years have elapsed, as many as seventy physicians from Germany, Austria, Italy, Switzerland, and the United States have gone to Stockholm to learn the method from the originator himself. Owing to his limited clinical material, Brandt has had to decline the applications of at least an equal number of physicians during that period.

In Germany, Ziegenspeck and others are teaching the method to a number of men interested in gynæcology, and the literature on the subject has already reached considerable dimensions. Brandt, therefore, on the eve of his life—for he is now seventy-one years of age—has the gratification of seeing a fulfillment of his fond and long-cherished hopes. The writer, during his visit, had occasion to witness almost daily evidence of this sentiment. But it reached its climax one evening shortly before his departure, when, at a reception at Brandt's house, Brandt, surrounded by an eminent German specialist (Professor Schultze, who was on a flying visit to Stockholm) and seven or eight medical men from various parts of the globe, in a toast expressed, in eloquent and soul-stirring words, his extreme satisfaction and delight that his life-long labors were being recognized by the learned medical world, and that they were to be put into the crucible of scientific investigation. In a burst of fiery eloquence and in tones ringing with the zeal and confidence of a prophet, he concluded by saying: "Come what will, the truth will remain, and I know others will be found who will continue where I have ended."

It has already been stated that when Brandt began pelvic massage he had a fair knowledge of general anatomy. By further studies he has gained a pretty thorough knowledge of the anatomy of the pelvis and its contents, and in this branch of medicine he is the equal of many a gynæcologist. His knowledge of pathology is crude and very defective, but it is as a diagnostician of pelvic affections that he excels. The writer has seen but few, either here or at the leading medical centers in Europe, who were Brandt's equal as a diagnostician. Of course his immense experience and wonderful delicacy of tactile sense have contributed chiefly to this skill; but his accuracy and refinement in diagnosis are in a measure due to the position in which he examines the patient. There can be no doubt, in the writer's opinion, that when the patient is in a semi-squatting position and the physician sits at the left side on a level somewhat higher than the patient, he can more readily palpate the pelvic contents than in the usual attitude. The reasons for this are (1) greater flaccidity of the abdominal walls; (2) greater ease in applying deep and steady pressure with the external hand; (3) the greater freedom to the examining finger on account of the support given to the elbow by resting on the physician's left knee.

An accurate diagnosis is very desirable as a preliminary to massage, though a correct diagnosis is frequently arrived at only after massage has been carried out for two days. The bimanual examination, which at first was an impossibility owing to the rigidity of the abdominal walls, now that these have been rendered flaccid by massage, gives valuable information. This feature of the method and the position of the patient above referred to will not be the least valued in the future when opening the abdomen to make a diagnosis becomes less fashionable, as it certainly will, and when also the gynæcologist will strive more for precision and accuracy than rapidity of diagnostication.

Brandt always examines the patient at the first visit in the erect posture in the usual way, and supplements the vaginal by a rectal examination. In all his examinations and manipulations the pupil can not but be favorably impressed with the care Brandt exercises in respecting the woman's feelings of delicacy and modesty. Many men who, in their ignorance, object to the method on moral grounds would have their transcendently modest feelings put to shame on contrasting their daily work with that of Brandt's. It may be necessary to repeat here, for the sake of these excessively moral men, that in pelvic massage the finger in the vagina should be kept stationary and made to act as only a support. Further than this, Brandt insists that the thumb should not be allowed to rest on the pubes, as is reversely and erroneously stated by Boldt* in his otherwise excellent article.

Another point worthy of copying from Brandt is the open position of the remaining four fingers of the examining hand, thus saving the woman the pain which is usually inflicted by the pressure of the knuckles of the closed fingers against the external genitalia. The fingers are not held stationary, as is so frequently stated, but are made to glide, partially flexed, over the glutei, so as to follow the movements of the examining finger. In Brandt's system, as he has devised it, general massage plays almost as important a figure as the special. Being a pupil of Branting, he has followed his method rather closely, though he has modified many movements and added a number of others, having the distinct object of acting upon the pelvic organs.

---

* The Manual Treatment in Gynæcology. *Am. Jour. of Obstet. and Dis. of Wom. and Children*, xxii, 1889, No. 6.

As most women suffering from uterine complaints are the victims of digestive derangements, particularly of constipation and of cold hands and feet, and of headaches and aches in various parts of the body, the general massage has the effect, in which it seldom fails, of relieving these subsidiary symptoms. In my opinion, many of these movements may be effectively replaced by exercise, such as walking or riding. This opinion has the indorsement of Dr. Nissen, who relies entirely upon the special massage and such exercise as the patient herself can practice. But the writer does not wish to underestimate the value of the general massage of the abdomen for the relief of the attendant constipation, and as a preparation of the abdominal walls for the special massage which is to follow. Brandt, however, lays great stress upon the different gymnastic movements, and provides each patient with a separate formula to meet the indications of her condition. This is changed as often as is found necessary to meet some new indication or to suppress a movement which is no longer indicated.

These movements are intended to carry out three objects:

First, to determine blood to the pelvis, as in amenorrhœa and atrophy of the uterus.

Second, to act as a derivative from the pelvic organs—that is, by determining blood to another part or organ of the body, the circulation in the pelvis is influenced, as in all inflammatory conditions and congestions of the uterus and its appendages. This object has its counterpart in medical therapeutics when drastic purgatives are given in affections of the brain.

Third, to strengthen the muscles of the pelvic floor, and thus strengthen some of the supports of the uterus and vagina, as in prolapsus of the uterus and vaginal walls. The objects of the special massage are not so clearly defined, nor is its *modus operandi* so easily explained.

Of course Brandt has an explanation to offer for almost everything that he carries out; but, as his knowledge of pathology is rather imperfect and much behind the day, as has already been mentioned, his explanations are often more ingenious than satisfying. Notwithstanding this, many of his explanations deserve consideration and will be stated in brief in connection with the pathological condition of which they treat.

It is in old parametritic and perimetritic adhesions that pelvic massage, or rather systematic daily stretching with massage, finds its widest and most valuable field. The writer firmly believes, from what he has observed and done, that here it is attended with the same brilliant results as massage of stiff and ankylosed joints. Even should it be found that its usefulness is limited to this pathological condition alone, it is destined to become a recognized scientific procedure in gynæcology, as it has long ago become in surgery.

Of the many patients with uterine adhesions that I saw treated during his stay, not one failed of being relieved, and many of them were cured so far as the mobility of the uterus was concerned. The brief narration of one case alone which I saw under treatment with Brandt must carry conviction to the minds of the most skeptical as to the efficacy of the procedure in this class of cases.

A lady, aged twenty-five, healthy-looking, had been to most of the eminent gynæcologists in Europe for the relief of a firmly adherent retroverted uterus. Before coming to Brandt she was for a long time under the care of Professor Schultze, of Jena, who at three different times had put her under deep narcosis, and had made unsuccessful attempts to forcibly break up or stretch the adhesions. After she had been under Brandt's treatment for six weeks the uterus could be anteverted quite easily. The case was examined by Professor Schultze, when on his visit to Stockholm, and he openly and generously acknowledged the foregoing facts to the writer and the other medical men in attendance. Professor Schultze added that if he had had any doubt before as to the value of the method in these cases, this case would entirely remove it. The amount of force used in stretching the adhesions varies with each case, and in the same case on different days. Brandt never tires of repeating the injunction: "Better do too little to-day than too much. In the one case you can supplement to morrow what you have left undone to-day; in the other, you may shut the door in your face for weeks and expose your patient to danger and weeks of suffering." In gynæcology one is often surprised as to how much one can do in one case with impunity, and in another case how much harm can be done by the slightest manipulation. In studying these cases it will often be found that in the latter class there is some complication, such as oophoritis or salpingitis. Hence the indispensability of a correct and precise diagnosis. The expression of this statement may seem superfluous, when almost every physician feels himself competent to map out the pelvic contents with ease and accuracy. But, if one has had any experience in teaching pelvic diagnosis or has taken lessons with other men who have already had considerable experience in that branch of gynæcology, he will know that that desideratum so devoutly wished is not often attained.

Brandt always *massées* the uterus and its surroundings before and after stretching. In this way he says he prepares the uterus for the manipulation and annuls the pain which frequently follows the stretching process. Ever since Dr. Nissen, some ten years ago, began to carry out pelvic massage during menstruation, Brandt has never allowed that physiological function to interfere with the continuance of his treatment. Brandt affirms that he meets with many cases in which the adhesions may show no sign of yielding until the stretching is done during a menstrual period. He states that he has never seen a bad result follow from this course, and I can bear testimony to the truth of this statement so far as my observations went during my stay in Stockholm.

Brandt says he followed this course while at Jena, and Professor Schultze raised no objection, as he witnessed no ill effects from it.

In a recent suggestive paper from the brilliant pen of Professor Goodell* it is stated that the menstrual process is a *bête noire* for which we have shown too much respect and fear.

The effects of stretching partially organized membranes are too well known to require any explanation.

In adhesions of the tubes and ovaries the writer has also seen good results from careful stretching and massage. The results, however, did not seem to him to be as brilliant as in the foregoing class of cases. In adherent ovaries and tubes there is the greater need of caution, as there is much more danger of doing harm. I should not advise any one to attempt to loosen these before having had considerable experience in pelvic massage in general. I have seen Brandt execute it in several cases and not once with an untoward effect; but few have the delicacy of touch and exercise the same care as Brandt. Enlarged tubes and ovaries are frequently rendered normal by massage. The former are always *masséed* toward the uterus, so that if there is any pus contained in them it is forced into the uterine cavity. As the uterine end is not as likely to be closed as the fimbriated end of the tube, the feasibility of doing this exists in a large proportion of cases. I am fully aware that operating gynæcologists say that the presence of pus is an indisputable indication for the radical removal of the tubes. But, as the amount of pus in tubes just removed is frequently so minute as to be evident only to the keen and piercing vision of the operator, how is the ordinary mortal to recognize its presence in these quantities in tubes *in situ?* The profession is gradually awakening to the fact that every thickened tube and enlarged ovary does not call for laparotomy, and that the hue and cry raised against pus in minute or doubtful quantities has been carried too far. Every one is agreed upon the advisability of the prompt removal of tubes containing pus in large or even moderate quantities, but what a small proportion these form to the tubes that are being daily removed is known only to those who have witnessed many of these operations.

Brandt makes a distinction between peri-oophoritis and oophoritis; or, in his own words, between ovaries whose enlargement is due to swelling of the tissues about them and those whose enlargement is due to the swelling of the ovarian tissue itself. The former, he says, are amenable to massage; the latter are not. The differential diagnosis, he further says, can often be made only by the result of treatment. The action of massage in these cases, according to Brandt, is similar to that in pelvic exudations of an inflammatory nature and will be explained when treating of that condition.

In all inflammatory exudates in the pelvis which have passed the acute stage, Brandt's results are fairly good. He says that he has treated cases in which the whole pelvic cavity was filled with a hard fixed mass presenting the impression as if liquid gypsum had been poured into the pelvis and allowed to harden. These enormous exudates often disappear under a course of treatment varying from weeks to several months. Some of these cases had been for years treated unsuccessfully by various other methods. I saw a case belonging to this class that had been under Brandt's treatment for various periods during the past two years. When the patient first came to Brandt the whole pelvic cavity to the brim was filled with a hard, unyielding, slightly sensitive mass, in which none of the pelvic organs could be distinguished except the projecting portion of the cervix. It was several weeks before any change could be noticed, and this was so very slight that Brandt was inclined to look upon the case as hopeless, and the treatment was discontinued. In the course of six months the patient returned to Brandt, having followed no treatment in the interval, but saying that she kept on gradually improving since she had been to see him before. On making an examination now it was found that the mass was reduced more than half its original size, and treatment was again instituted. After a course of several weeks the whole of the exudate had become absorbed, excepting a mass of the size of a Florida orange at the left of the uterus. The patient then went without any treatment for a long time, when she presented herself for treatment the third time, and that was during the writer's stay. Brandt stated that the exudate to the left of the uterus was of about the same size as when he had last seen the patient. She was making fair progress under treatment when, one day, one of the attending physicians was allowed to apply the pelvic massage. That night the patient had a chill, and when presenting herself for treatment the next day she had considerable fever, with tenderness over the left inguinal region, and the pelvic mass was found to be of nearly double the size it had been the day before. Brandt holds that these acute exudations, when seen at the very outset, may be made to disappear under the continuance of the massage. Accordingly, the massage was continued for three days, care being taken to apply it very lightly. The general condition of the patient, however, continued to be growing worse, and the mass, if undergoing any change, was increasing in size. This case is given somewhat *in extenso* for several reasons:

1. It goes to show that the molecular changes set up by massage in inflammatory products may continue for a long time after the massage has been discontinued.

2. It provides an instance where massage may be attended with success in a class of cases hitherto looked upon as almost hopeless.

3. It teaches the importance of Brandt's injunction: "Rather use too little force in massage than too much," notwithstanding that other eminent writers on the subject assert that Brandt is over-cautious in this respect.

4. It afforded an instance—the only one the writer witnessed—in which massage was applied to an exudation almost immediately after it had occurred. The results certainly were not such as to encourage the carrying out of the same procedure in similar conditions. In carrying out massage in inflammatory exudations, and, in fact, in

---

* *Med. News*, Nov. 29, 1890.

almost all conditions, Brandt first applies it over the vertebral column a little above the promontory. In doing this he says he opens up the large lymph ducts and thus favors absorption. The vibratory and rubbing movements of massage set up a molecular change in the exudate which liquefies it and places it in a condition favorable to being taken up by the blood and lymph vessels. The nerves, the circulation of the blood, and the lymph vessels of the pelvis, are all influenced by massage, and thus a group of changes is instituted all favoring the consummation of the desired result—absorption of the exudate.

The writer had opportunities of seeing the various displacements of the uterus treated, and the results, as a general rule, were gratifying in the extreme. This scarcely could have been otherwise, when we pause to consider that displacements are seldom seen without accompanying adhesions, and when we recall what has been said on the value of pelvic massage in adhesions.

It is generally conceded that a displacement *per se* rarely gives rise to any trouble. Whether we accept the theory that displacements are caused by adhesions, or that adhesions bring about displacements—both of which theories, in my opinion, are true in different cases—all admit that, in almost ninety-five per cent. of displacements, it is the adhesions that produce the distressing symptoms. Any therapeutical procedure, therefore, surgical or mechanical, which attempts to cure displacements without taking this fact into consideration, is destined to become a miserable failure. The history of the many ingenious operations devised within the past two years for the relief of displacements will bear out the truth of this statement. The majority of these operations have the effect simply of substituting one pathological condition for another. It can matter little to a woman whether her uterus is fixed posteriorly or anteriorly so long as she has to suffer her pelvic aches and pains and her distressing urinary symptoms and dysmenorrhœas. Some of the operations devised take into consideration the foregoing facts, and include a procedure for the forcible breaking up of the adhesions before the uterus is fixed in what is considered the natural position. But the objection to these procedures is that the breaking up is done forcibly, leaving of necessity a large raw surface, which will favor the reproduction of the adhesions, or the agglutination of a loop of intestines which has dropped in in between the raw surface and the uterus. These contingencies are not the fruits of the imagination merely, but are borne out by the history of numerous cases operated upon. A procedure, therefore, which attains the object of gradually stretching the adhesion so that the uterus can be brought into the natural position will not be attended with these evil sequelæ.

Should it prove, as the writer thinks, that in some cases the uterus will persist in maintaining the faulty position even after the adhesions have been distended, a gain nevertheless will have been accomplished, for if the symptoms persist, then one of the operations for correcting the malposition could be done with good results, or a pessary might be used for the same purpose. But in many cases after the uterus has been freed from its moorings, Brandt's "lifting" process will have the effect of establishing the uterus in the normal position.

Brandt's explanation of the *modus operandi* of "lifting" is rather obscure, and would require too much space to be given *in extenso*. Briefly stated, it is to the effect that, through lifting, the uterine supports—which he holds to be the round ligaments—and the pelvic peritonæum are irritated to contraction, whereby they are strengthened. "He believes that the lifting acts very much upon the uterine supports as the movements of resistance do upon the muscles of a paretic limb. That the activity of the muscle that is overcome in these movements supplies it with innervation and nutrition, and the muscle then resumes its full activity or becomes stronger than before" (Ziegenspeck's *Treatment of Diseases of Women by Massage*).

Although it was in the treatment of prolapsus of the uterus that Brandt first gained his spurs in the field of gynæcology, he himself now ranks this condition low in the scale of the affections that receive the most benefit from his treatment. For the cure of prolapsus by his method he says certain conditions are essential:

1. The woman must be fairly young and healthy.
2. The uterine supports must still possess the power of contractility and innervation.
3. There must be evidence of at least partial cure at the end of fourteen days' daily treatment. In the absence of this feature at the stated period, he discontinues treatment.

The "liftings" play a prominent rôle in the management of prolapsus uteri. During my stay I did not have a single opportunity of witnessing the treatment of a case of complete prolapsus. Judging, however, from what I have heard from Brandt, and reasoning from observations made in other conditions, I am of the opinion that occasionally a complete prolapsus will be found capable of thorough cure by Brandt's method.

I am further of the opinion that the method may act as a prophylactic measure in cases of commencing descent of the uterus due to relaxation or subinvolution of the uterine supports. What has just been said of prolapsus of the uterus will hold good for prolapsus of the vaginal walls, proctocele, and cystocele. The method, however, in these conditions will scarcely rival colporrhaphy in competent hands.

Brandt professes to have good results in the amenorrhœa of young girls and in that of premature atrophy of the uterus. In the former cases the support is always supplied with the finger in the rectum. Probably the Swedish movements and the general hygienic treatment are greater factors in the cure of these cases than the special massage.

In dysmenorrhœa Brandt has frequently met with good results, but, as dysmenorrhœa is only a symptom due to a variety of pathological conditions, it scarcely deserves separate consideration. One form, however, may be mentioned—that supposed to be due to stenosis of the internal os, inasmuch as Brandt's explanation of the cure is rather ingenious. He holds that the formation of the clots, the passage of which gives rise to the pain, is due to the slow oozing of the blood from the uterine mucous membrane. By his method he alleges the circulation of the uterus is improved and the blood flows more freely and is discharged from the uterine cavity before it has had time to coagulate.

Enlargement of the uterus due to subinvolution is made to disappear quickly under the influence of pelvic massage. It is almost incredible in how short a time a uterus three times its normal size may be brought down to its proper size by being *masséed.* Quite recently I have had a case in dispensary practice that had been under treatment for three months without any relief. Five daily applications of massage caused the disappearance of the symptoms and brought the uterus down to its normal dimensions.

Brandt has met with good success in the treatment of metrorrhagia, but the same may be said of this condition as was said of dysmenorrhœa: The underlying pathological condition must be sought and treated. The gynæcologist who has no special hobbies to ride will scarcely, in a case of hæmorrhage due to fungosities of the endometrium, take the time or patience to resort to massage when he knows he has a ready and sure means in the curette. But obscure cases are sometimes met with in which the curette fails to remove fungosities or to arrest the hæmorrhage. Then it may be well to try massage as a *dernier ressort.* Brandt says that, in some cases where the uterus is small and hard, even light massage has the effect only of increasing the hæmorrhage. In these cases he says if the slightest possible massage is applied, the hæmorrhage will cease as if by magic. He attempts no explanation of this strange observation.

Pelvic hæmatocele is said to disappear more rapidly under the influence of massage than when treated on the expectant plan. The writer has had no personal experience, however, on this point. From what has gone before, it will be easily inferred what the contra-indications are. Pelvic massage is contra-indicated in all acute inflammatory conditions, in cancer and other malignant growths, and in the presence of more than minute or doubtful quantities of pus. A contra-indication which occurs to the writer, and which he has not heard mentioned by Brandt or by any writer on the subject, is a condition not infrequently met with in which the patient suffers from a number of subjective symptoms, the most prominent of which is pelvic pain, and in which the local finding is doubtful or negative. In some of these cases there isdoubtless a deep-seated inflammatory focus, in others merely a neurosis of the pelvic nerves. In plainer words, if there is an undoubted local lesion there is little or no danger of exciting erotic sensations through pelvic massage. In a talk with Dr. Nissen on this point, he (Dr. Nissen) stated that in an experience with over 2,000 patients suffering from a variety of lesions he had met with this disagreeable feature only twice, and the treatment was discontinued in consequence. But, although the writer's limited experience corresponds fully with this statement, he can see that the experience might have been different had every highly nervous woman with many subjective complaints and with doubtful objective findings been subjected to the treatment. The transference of Brandt's method from lay into professional hands does not, unfortunately, eliminate the danger of quackery. The most dangerous kind of quackery is that which has for its backing a professional title, and it is in the class of cases just mentioned that the greatest danger exists of professional quackery coming into play. The danger is not diminished by the circumstance that the field might prove a very profitable one. To the credit of Brandt it must be stated that the fear that the method may be put to the uses of the quack has actuated him in declining all applications to study under him from men who have not been recommended to him as physicians in good standing and with some knowledge of gynæcology.

In conclusion, the writer would say that he is firmly of the belief that pelvic massage is destined to become a recognized agent in gynæcology, and that he is fully convinced that with it cures may be accomplished in a certain class of cases not amenable to cure by any other procedure now in vogue. He has reference to displacements and to chronic perimetritic and parametritic adhesions. In these cases and in those of subinvolution he thinks it will become before long an agent of predilection; in the other conditions treated of in this paper it will probably be resorted to, and justly, only when other means of treatment have been tried without success.

If I succeed by this paper in drawing the attention of the profession in this country to a just conception of the value of Brandt's method, I shall feel that my object has been attained.

167 East Sixty-first Street.

AUTOMATIC MENSTRUAL GANGLIA.

A NEW THEORY OF MENSTRUATION.

By F. B. ROBINSON, B. S., M. D.,
TOLEDO, OHIO,
PROFESSOR OF ANATOMY AND SURGERY IN TOLEDO MEDICAL COLLEGE.

For several years I have been investigating the relation of the tubes, uterus, and ovaries in menstruation. By a visit to Berlin in 1884 I was enabled to examine a very large number of tubes, uteri, and ovaries in Professor Virchow's laboratory. In 1887, in a trip to Vienna, I was able to examine many more in Professor Kundrat's laboratory. Since then I have been carefully investigating the relation of the tubes, ovaries, and uteri of the lower animals. I examined about a hundred and fifty tubes, ovaries, and uteri of sows which were freshly butchered and in all states of existence. The number of various conditions which these organs were found in was remarkable. The ovaries of sows which are supposed to be healthy vary in size from that of a plum-stone to that of a large bunch of grapes. The main disease was shown by cystic conditions of the Graafian follicles. The Graafian follicles *generally* grew in crops of from three to ten and showed cystic enlargement or cystic degeneration. The maturation and rupture of the Graafian follicles go in definite cycles and definite periods of time. One sees wandering follicles jutting out on the ovary now and then and here and there, but they look like fruit picked before its time. The normal ova mature and rupture by crops, by cycles, by a periodic rhythm. The tubes of the sow show a plainer state of cycle or rhythm. Seldom is the tube found uncongested. It has its intermenstrual periodic peristaltic motion. By the varied condition of the congestion of the tube, one can see that it has a very marked cycle of movement. Its activity is greatest at the time of menstruation and its walls are dark-blue and crimson with injected blood. At the climax of the congestion, when the Graafian vesicle is almost ready to burst, and particularly for a few days following, the fimbria is enormously enlarged and spread over the ripened ova like an umbrella. I have found sometimes slight adhesions between the broadened, congested fimbria and the bursting follicle. Then, as the ovary shrank and lost its congested blood, so the tube gradually shrank to its normal size to begin a new cycle of motion. The marked organ in the whole process is the tube at its fimbriated extremity. Menstruation might be called the motion of the tubes. An observation which I noted was that the tubes did not respond to every ripening crop of eggs in the ovary alike. I have seen large ova projecting high above the ovarian surface, but the tubes were still and uncongested. The ova had degenerated and the tube did not go through its rhythmical cycle, its peristaltic motion. The muscular part of the fimbria which is attached to the ovary induces some tubal motion by its periodic contraction and relaxation. The only rational physiological explanation of the approach of the tube on the ovary at distinct times is that the muscle which connects the fimbriated extremity of the tube to the ovary contracts. No reasonable explanation can be given of the view that the ovary moves toward the tube. The careful examination of some fifty cows and thirty-five sheep showed similar conditions but not so marked.

The view brought forth in this article is that menstruation is governed by the ganglia situated in the uterine walls and along the tubes and closely connected with the ovaries; that tubal motion constitutes the cycle of the menstrual period due to ganglia. The question may be asked, What is a nervous ganglion? A nervous ganglion is a collection of nerve-cells. Its constituents are nerve-cells and nerve-fibers. It is an ideal nervous center having a central, conducting, and peripheral apparatus. A ganglion is a little brain, a physiological center. It has the power of receiving sensation and transmitting motion. It is automatic in itself. It possesses the power of nourishment and controls secretions. Reflex action can be demonstrated in it. What we call sensory, motor, and sympathetic nerve-fibers are found making up its construction. The great peculiarity of a ganglion is its cyclical movements, its rhythmic action. Its function is periodic, continually rising to a maximum or sinking to a minimum. Its mode of living is to go through cycles, epochs, periods, and eras as bodies complete their circles round the sun. The ganglion may act abruptly and explode, as in the heart-beat, or gently rise and fall, as in respiration.

Histologists have long known that in the abdominal viscera there exist ganglia possessed of automatic powers. The names of Remak, Bidder, Ludwig, Schmidt, and others are associated with the discovery and description of these visceral ganglia. I have satisfied myself many a time, in vivisection on dogs and other animals, that the heart has automatic nervous centers or ganglia, which will continue its action independently of its cerebro-spinal connection; not only that it has automatic nerve ganglia in its walls, but that nearly all these ganglia are centered in the walls of the auricle. We know by experiment that the heart will perform its cycle of contraction independently of its external nervous connection. Many times I have watched the heart's action gradually die out from apex to base. Hence, few doubt that the ganglia of Ludwig, Bidder, Remak, and Schmidt govern the heart in the style called automatic.

Experiments on dogs' intestines prove that their walls possess automatic ganglia. I have seen the intestines of a dog keep up their peristaltic motion long after death, and, on tapping the intestines with the scalpel over an hour after death, the bowel walls would take on a vermicular motion. Many times I have watched with wonder this "invagination of death" for an hour after I had chloroformed the dog to death. Now, Auerbach demonstrated long ago that this cyclical motion could go on independently of the great nervous center, that intestinal peristalsis was due to many small ganglia situated on a network of nerves located between the circular and the longitudinal muscular layers of the gut-wall. This nervous plexus with its ganglia is called Auerbach's. It is set in motion by an appropriate stimulus, and will perform its peculiar cycle or rhythm. Just under the mucous membrane of the intestine is found another nerve plexus with its connected numerous ganglia, designated as Meissner's plexus. This, no doubt, has to do with secretion, and, when stimulated by appropriate forces, will go through a circle of action.

The same statements can be made relative to the bladder. It is supplied by two kinds of nerves. One kind is the sympathetic nerves, which go to its summit and body and are studded over with small ganglia. These ganglia are closely associated with the blood-vessels and muscles in its walls, and have an influence in controlling the periodic rhythm and cyclical movements of the bladder. As an example of the actions of the ganglia of automatic motion in the bladder, I took from the body of a stag, weighing fourteen hundred pounds, the bladder, penis, and rectum. In some twelve hours after, it contracted down quite small, at which time I dilated it. Thirty-six hours after, I examined it again, and I found that it had contracted smaller than ever, showing a cavity which would contain about half a pint of fluid. These sympathetic ganglia of the bladder had presented automatic action and rhythm for at least forty hours. The matter can be best demonstrated by injecting its blood-vessels with fluid and then watching it hourly for a day, and the slow cyclical rhythm can be plainly seen. If one wishes to see the demonstration in a more obvious and striking manner, the best way is to choose the uterus of a large cow that has borne calves, which will have long, tortuous, helicoid arteries. These long blood-channels will be endowed with many ganglia. Now, by injecting colored fluid into this big uterus one can easily observe the varying periodic, cyclical rhythm of the different portions and sections of the uterus for some forty hours after death and the detachment of the uterus from the cow. The other kind of nerves supplying the base and neck of the bladder are the sacral, spinal, and they endow that part of the bladder with sensation, while the summit of the bladder, being supplied by sympathetic ganglia, has only blunt sensation; but the summit and the body of the bladder are the parts endowed with ganglia, and also the parts endowed with the cyclical rhythm, while the base and neck, supplied with but few ganglia and a large supply of sacral spinal nerves, do not enter very largely into the rhythmic action.

The uterus and appendages are no exception to the condition of other abdominal viscera. It has been known for some time that on the nerves supplying the uterine wall of animals there existed many of these similar ganglia. The ganglia extend along the oviducts.

It is also demonstrated that nerve ganglia of the same kind exist in the walls of woman's uterus. Histologists and microscopists found and described these ganglia some time ago. These ganglia are found especially in the muscularis mucosæ, and, according to Lindgren, there exists a nerve plexus also in the mucous membrane of the uterus. Hence, here we have the same condition as is well known to exist in the walls of the heart (auricles) and the walls of the intestines and also of the bladder. It is simply the old automaton—a plexus of nerves studded over with numerous ganglia—that induces the uterus and tubes to perform their rhythmic cycle. There is also, no doubt, some vital connection between a uterine and tubal cycle and an ovarian cycle. In other words, there is close communion between menstruation and the maturation of a *normal* ovum. I have observed in the sow that sometimes when the crop of ova did not mature normally, the tube at its fimbriated extremity did not go through its wonted cycle. It was still and pale. The degenerated ova did not excite the ganglia in the uterus and tubes to make their cyclical rhythm. These three organs—uterus, tubes, and ovaries—must come into conjunction to perform their normal action, which is to get an egg into the uterus. It may be compared to the heavenly bodies whirling around the sun; many revolutions will be made by any two before they make an eclipse or come in conjunction with the sun so that the two bodies and the sun stand in a straight line. The bodies will pass each other dozens of times and make no shadow, but there comes a time when the three bodies will stand in a straight line and a shadow will be cast. So it is with the tubes, uterus, and ovaries; there comes a time when the three stand in such a relation to each other that a normal egg gets into the uterus—it passes from a ruptured Graafian follicle into a prepared (congested) transporting canal, and is floated into a prepared soil and rests on the inside of the uterus, the endometrium. No doubt the turgid, congested state of the organs induces rupture of the Graafian follicle. It may be that the ganglionic nervous plexus of the ovary can act through its rhythm at a different time and period than the tube and uterus; that the excitement starting the ganglia governing the ovarian cycle is not associated closely with the ganglia governing the cycle of the tube and uterus.

That menstruation is governed by a nervous ganglionic plexus is also confirmed by the very remarkable researches of Dr. Arthur Johnstone, of Danville, Ky., who asserts that the uterine lining membrane is not a mucous membrane, but a gland—a substance known as adenoid tissue; and also Dr. Johnstone has demonstrated that a nerve plexus located along the uterus and tubes has a large share in influencing the rhythm of menstruation, and that there is one especially large nerve trunk which, being cut, quite effectually aids in arresting menstruation. I have been able to confirm the views of Dr. Johnstone that there is adenoid tissue in the endometrium. The method I used was to watch for a very clear day, especially when a rain had washed the dust out of the atmosphere, and then to use an Abbé's lighting apparatus, a high ocular, and a Reichert's homogeneous oil-immersion of very high power. The adenoid tissue under such circumstances is generally visible. Professor Tait adds confirmatory evidence to this theory. The question may arise, If the endometrium is a gland, and menstruation is governed by the ganglia connected with it and the tubes, why does not menstruation go on from birth to death? We may say that the endometric gland is only functionally active at a definite period of life, and hence the nerve ganglia in it only normally work at the same period. This is not a strange matter. The thymus gland is the largest at birth. The thyreoid gland becomes most active in youth, say in girls at fifteen. It is a common observation that the sebaceous glands of the face of males become very active at a distinct period and grow coarse, stout hair. No doubt the gland existed long before the beard grew. The sebaceous glands on females grow a beard often late in life—after menstrual cessation. Glands act at definite periods of life. A good example is the salivary gland, which does not secrete until some months after birth. That menstruation has close relation with the nervous system, and that too with the sympathetic as it gives rhythm, is a common observation; nervous disturbance disturbs menstruation. I knew a country schoolma'm who was menstruating and walking to her school-house on a railroad track. Suddenly the train came up behind her from a curve and whistled. The affair so frightened her that she immediately ceased menstruating, and did not menstruate for about a year.

When the nervous system is impaired in strength by wasting disease there may not be enough vital energy to induce and carry on menstruation. All have observed how tubercular girls stop menstruating. It is a common observation that fat persons have weak resisting power against disease, and very fat girls often do not menstruate. Again, with a precocious, abnormally developed, nervous girl one may see early menstruation. In pregnancy and nursing menstruation is arrested, because the nervous vitality is expended in nourishment. The fat girl, the tubercular girl, and the pregnant or nursing woman, do not menstruate, because the vital nervous energy either is drifted into other channels or is insufficient to start the ganglia and keep them going through a menstrual rhythm. A cold reduces vital nerve power and checks the menstrual flow. Our observations on the lower animals seemed to indicate that the most active explosion of nervous energy must occur in the ganglia associated with the fimbriated end of the tube. The most apparent phenomenon in menstruation that strikes the eye is the vast movement and congestion occurring in the fimbriated part of the tube. The amount of congestion, change, and motion in this part of the tube is enormous. The movements executed by the tubes have not heretofore received marked attention, but tubal motion will receive more attention in the future. The tubes execute vast cycles of motion and seem to be going through a peculiar rhythm continually—of congestion, motion, and decongestion. We may yet come to say that a girl has arrived at the period of tubal motion instead of puberty; that the climax of woman is simply the cessation of tubal motion. The irritation of the ganglia governing the tubal cycle induces the fimbria to approach the ovary by shortening the muscular strip which connects the ovary and tube, and thus it drops its umbrella-like fringe over the ovary and secures, if possible, the egg in its funnel. Whether menstruation of woman and the rut of animals are one and the same thing, time and investigation must decide. Whether menstruation, in the progress of evolution, is an addition of civilization and also a reward of the upright posture of man, time must tell. It would seem a nasty and defective civilization that would add this fruitful source of physical and mental suffering to the highest animal. Yet evolution works toward death as well as toward life. When man got on his hind feet he advanced wonderfully in his dexterity and lost wonderfully in the power of his heart and circulation.

Later researches tend to show that ovulation and menstruation are wholly independent of each other. However, all agree that they can be concurrent, that the ovum, tube, and uterus can reach a climax at the same time, and the egg is floated on to the endometrium by the fluids secured by excessive congestion. A dry, contracted, uncongested tube could not readily transport or float an ovum. Many of my microscopic specimens and dozens of observations on man and animals convince me that ovulation is a constant process from before birth until some time after the climax—until the ovarian germinal tissue gives out. It is common to find in calves at birth ovarian follicles as large as beans and ready to burst. Histologists tell us that a female child is born with over fifty thousand ova in her ovaries. Of course, she can not have menstrual periods to dispose of these at say one to three ovulations at each period. But I would call attention to the idea that ovulation at rut or menstrual epochs appears to differ from ovulation at other epochs, as before puberty. The ovulation at other times than at rut or menstruation may not produce normal ova or ova which will develop. It requires a normally developed gland—the endometrium with its properly matured *ganglia*, the tubes with their matured nerve plexus and *ganglia*—to act in concert with a matured ovary to secure a normal egg which can be fecundated. Other kind of ovulation is simply blighted fruit. The more I study the subject, the more I am convinced that the tubes play a very high *rôle* in menstruation, and that their movement (congestion and decongestion) is governed by ganglia which endow them with a rhythm. The gland known as the endometrium acts in harmony with the tubes, but the tubal motion overshadows all the rest in menstruation. The time required by these various visceral ganglia to complete a rhythmical cycle varies with varying influences. The ganglia of Bidder, Schmidt, Ludwig, and Remak in the heart explode and complete their rhythm in less than a second. The respiratory rhythm is completed in some four seconds. The intestinal rhythm, or peristalsis, presided over by Auerbach's and Meissner's plexuses with their *ganglia*, have varying cycles, according to the varying stimuli applied.

The ganglia in the uterus and tubes of woman induce a cycle generally once a month. They explode monthly. In the lower animals these automatic uterine and tubal ganglia explode in periods which are equal to the cycle of the rut. Therefore menstruation and rut are governed in their rhythmic cycle by the automatic uterine and tubal ganglia. Will these views lend any aid in explaining the action or function of uterus, tubes, or ovary after surgical or other destructive procedures on any one of the three? It appears to me they will. Under the views presented in this paper it would not be expected that ablation of the ovaries would cause menstruation to cease suddenly. The automatic ganglia of the tubes and uterus are still intact, and will execute their rhythm. Most gynæcologists give evidence that this agrees with facts. Ovaries are extirpated and tubal motion continues. However, the destruction of part of a connected complex organ soon destroys the nice balance, and nourishment of the ganglia would in time deteriorate, and then insufficient nervous vitality would fail in starting and sustaining a menstrual rhythm. Again, extirpation of the tubes, according to these views, would quite effectually aid in arresting menstruation and tubal motion, though not entirely, as many ganglia would be left in the uterine wall. But in the very plan of the machinery the tube is no doubt designed to execute a larger range of motion than the uterus. The tube, to secure an egg, is forced to considerable motion, while the uterus could perform its function by being relatively still. Hence most of the automatic ganglia governing menstruation or tubal motion are in relation with the oviducts. This view also agrees with facts. Most of the gynæcologists whom I saw operating in the German clinics told me that removal of the tubes in the vast majority of cases finally checked menstruation. Professor Lawson Tait writes that total removal of the tubes causes menstruation to cease in ninety per cent. of cases. Actual cases also prove to us that when only the ovaries are removed in women, with inflammation existing in the other uterine appendages, they are but little helped in their misery until the tubes are removed, for the active organ in menstruation is the tube. Finally, the most of the uterus and tubes being extirpated, the menses would in nearly all cases cease, because almost every automatic menstrual ganglion would be removed with the uterus and tube. The ovary left intact without a tube or uterus would do no harm, as its blighted ova would be absorbed, degenerate, or fall into the peritonæum. In those cases where menstruation continues after extirpation of tubes and uterus, no doubt some menstrual automatic ganglia were left undestroyed.

I hope to be able to continue further microscopic investigation on these ganglia, which I shall term the *automatic menstrual ganglia.* To me the various action of the heart under varying state and pressure of the blood is not so intelligible without a knowledge that the automatic ganglia situated in its walls control and regulate its movements. The pressure and the state of the blood act as a stimulus to excite the heart to normal action through its automatic cardiac ganglia. A knowledge of the functions of these automatic cardiac ganglia clears up many an obscure problem and renders more intelligible the action of the heart under varying circumstances. So it suggests itself to me that a knowledge of what I shall term automatic menstrual ganglia will throw more light on the action of that organ around which woman is built both physically and mentally. I hope these ganglia will render the functions of the uterus, but especially the tubes, more obvious, and aid in clearing obscure pathological action.

(*To be concluded.*)

A NEW URETHROTOME.

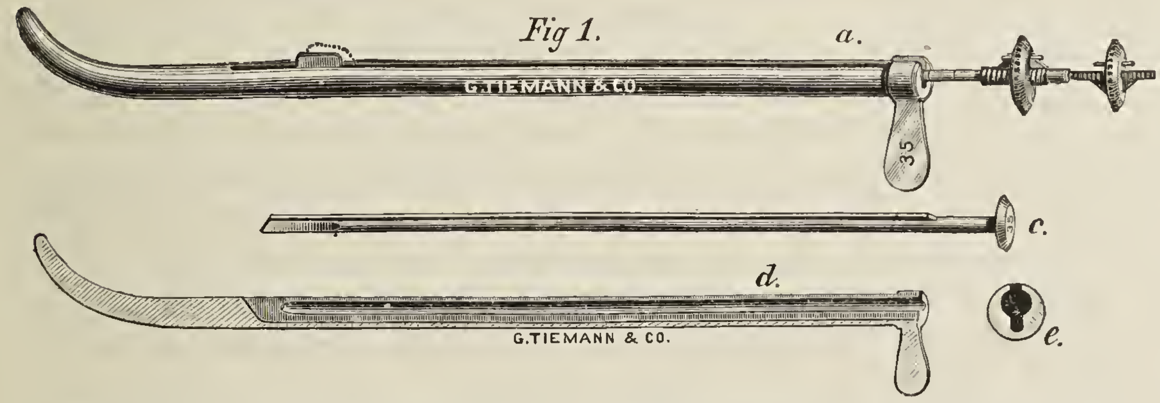
By WILLIAM F. FLUHRER, M. D.,

VISITING SURGEON TO BELLEVUE AND MOUNT SINAI HOSPITALS.

I HAVE sought to make the urethrotome here described an instrument of precision, simple in action and construction, by means of which a stricture anywhere in the urethra can be detected, measured, and cut with accuracy.

The basis for the design is the conical steel sound.

The instrument consists essentially of two parts—a staff and a cutting mechanism, with which is combined an adjustable stop or detector.



a, the staff with contained cutting mechanism; *c*, the obturator; *d*, longitudinal section showing the groove and bore; *e*, cross section of the shaft.

The staff has the general shape of the Van Buren conical steel sound, but is longer in the shaft and shorter in the curved portion. The length over all is ten inches, the shaft being eight inches and a half. The increased length of the shaft is to afford a wide range to the knife, and the shorter curved portion is to facilitate turning of the shaft upon its long axis when the instrument is introduced into the bladder. The handle is shaped like that upon evacuating lithotrity catheters. The staff is made from solid steel in two parts, the curved portion being joined to the shaft. The shaft is nearly cylindrical. For convenience of description, that portion of its surface looking in the direction in which the curved extremity points will be designated the upper surface. In this upper surface is cut a groove two mm. wide, eight mm. deep, and eight inches long, extending from its proximal extremity. This groove is of the same width and depth throughout its length, except upon its floor, which is concaved from side to side, and at its distal extremity, where it terminates in an abrupt incline to the surface, similarly concaved. This avoidance of angles is to make the groove easier to clean. The upper surface of the shaft is very slightly flattened—just enough to break the edges at the margin of the groove without rounding them.

In addition to the groove, the shaft has a circular bore parallel to its upper surface. The bore is made quite near to the upper surface of the shaft to develop the greatest power of the cutting machanism, and at the same time it is far enough from the surface to allow free play to the cutting mechanism without contact with tissues. The bore terminates in a smooth bevel about three fourths of an inch from the distal end of the groove. The staff is completed by an obturator, which is made to fill the bore and close the upper portion of the groove. The obturator is beveled at its distal extremity to prevent pinching of mucous membrane. Its proximal extremity extends half an inch beyond the staff, and has a round, flattened head, upon which is stamped the number of the gauge of the staff. The upper surface of the obturator is flattened flush with the edges of the groove. With the obturator in position, the staff does not differ from a conical steel sound in any important particular that would interfere with its introduction through a stricture.

Since it is intended that the staff shall fill the caliber of the stricture and more or less distend it, it is necessary in cutting different strictures that there shall be a series of staffs of different sizes. Staffs from 18 F. to 25 F. have the same size of groove and take the same cutting mechanism. In those above No. 25 F. the groove and bore are somewhat larger, and they are fitted with a larger cutting mechanism. The bore sustains the same relation to the surface of the shaft independently of differences in size of the latter, and, consequently, is the more eccentric the larger the shaft. The nice construction of the groove and bore is all important. These staffs, made by Tiemann & Co., of New York, are among the best productions of the instrument-maker's art. I am indebted to Mr. Julius Pfarre, of the firm, for supervising the workman till he had constructed the staffs in exact compliance with my specifications.

The cutting mechanism, with which is combined the detector, is composed of two principal parts, the knife and the adjustable stop. They are carried by a metal tube and their action is controlled by wheel adjustments. The knife and stop are so arranged that they can be made to rise and fall independently. The blade of the knife is received through a slot in the detector, which latter supports and steadies the knife. The handles of the knife and detector are half round, that of the former lying under the latter. The wheels are of different sizes, the larger and forward one acting upon the adjustable stop or detector, and the smaller one upon the knife. They move upon triple threads, so that one turn, to which they are limited by check pins, gives sufficient range of movement to fully raise or lower the knife or detector. The beveled face on each side of the coarsely milled circumference is numbered to indicate the amount of rotation of the wheel. The shaft of the cutting mechanism is graduated to quarter inches. The cutting mechanism slides very easily in the staff, friction being reduced as much as possible to bearings at its distal extremity.

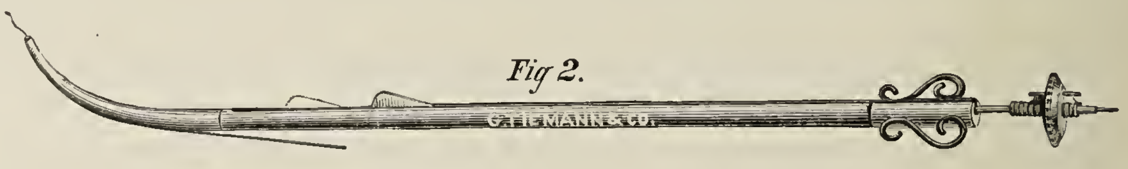


Fig 2.

The action of the instrument is as follows: The stricture having been calibrated by the steel sound, a staff of corresponding size is passed through the stricture. The grooved surface of the shaft is, of course, presented to that aspect of the urethra which is to be cut. In cutting the deep urethra, the staff is passed into the bladder, its arrival there being announced by the flow of urine upon the slight withdrawal of the obturator. The staff in position steadies the stricture and puts it more or less upon the stretch. The obturator is then withdrawn, uncovering the groove without relaxing the distention exerted by the staff upon the stricture. The cutting mechanism is fitted to the groove. The detector is elevated and the location of the meatus read off. The urethra is then explored from before backward with the detector raised as high as possible without bringing it into a degree of frictional contact with the urethra interfering with its easy slip. When it strikes the anterior face of the stricture, the location is read off. The stop is then lowered, passed beyond the stricture, and the urethra explored from behind forward with the raised stop. The location of the posterior face of the stricture is noted and the distance between the two points of arrest minus the length of the stop is the length of the stricture. In cutting, the posterior limit of the stricture is defined, and then for the raised detector is substituted the knife. The knife acts upon the steadied stricture in a plane at right angles to the direction of its stretch, conditions most favorable for its exact and thorough incision. The length and depth of the cut, it is obvious, can be regulated with precision. The wheel adjustments of the detector and knife leave the freest scope to the touch for exploration and incision. The stricture having been cut, the obturator is reinserted and the staff withdrawn. The urethra is again explored with the steel sound and any contraction calibrated as before. The proper staff is introduced and the canal made true to its full size.

The staff is easily cleaned. The groove should be well wiped with cotton upon a wire applicator and then carefully dried by warming in the flame of an alcohol lamp and finally oiled. The cutting mechanism is easily taken apart and cleaned. A piece of blotting-paper is useful in drying the slots. The only difficulty in assembling the parts is in making the wheels catch upon the right threads, so that the little carriers moved by them will act properly upon the handles of the knife and detector.

To place strictures of small caliber within its reach I have devised a modification of the above-described urethrotome, somewhat simpler in construction and action, shown in Fig. 2.

The instrument for strictures of small caliber is to be used over a whalebone guide, and consequently is tunneled at its curved extremity. The shaft is eight inches long to the commencement of the handle and conical, running through four sizes of the French scale. It has a bore parallel to its upper surface, which it opens upon by a narrow slit. The slit is made narrow to exclude the whalebone guide. The shaft is screwed to the curved portion, a thin washer entering into the joint. This washer is equal to a half-turn of the shaft, and by its introduction or removal the slit is made to present at the upper or lower surface of the instrument. The cutting mechanism has a fixed stop near its distal extremity for the detection of the stricture. The knife is moved by a wheel mechanism, as heretofore described. In use, the staff passed over the guide wedges into and distends the stricture. The location of the stricture is defined by the arrest of the stop. When the stop is felt to strike the anterior face of the stricture, the knife, which is then beyond the stricture, is raised, and the stricture is then cut from behind forward.

32 West Thirty-third Street, New York.

SOME ACHIEVEMENTS OF KOCH'S "LYMPH."

A FEW THOUGHTS AND SUGGESTIONS REGARDING ITS USE.

By JOSEPH WILLIAM STICKLER, M. D.,
ORANGE, N. J.

There is just now a disposition to undervalue Dr. Koch's method of treating various forms of tuberculosis, simply because death has followed the use of the "lymph" in a few instances, and because serious or alarming complications have arisen in others. This is neither fair nor just. As a matter of fact, the majority of the patients treated in the Berlin hospitals have been benefited by the treatment. Patients far advanced in phthisis have in some instances been greatly improved. They have got rid of their night-sweats; have either gained a little in weight, or have not lost flesh; have had their cough and expectoration lessened, and, because of having been improved in these particulars, have slept better. A great many patients with incipient phthisis have received very marked benefit from this treatment. If the disease treated were any other than incipient phthisis, I should say the "lymph" had wrought many cures in this class of cases; but the nature of the disease is such that I think it is quite impossible for any man to be absolutely certain of having thoroughly eradicated it from the lungs in six or eight weeks. Then again there are many cases of lupus apparently cured, and various forms of tubercular bone disease more decidedly benefited by injections of "lymph" in a few weeks than by any other mode of treatment carried on for a much longer time. When Professor Koch announced his recent discovery, too much was expected; consequently disappointment prevails to a certain extent throughout the land. This is quite natural, in a certain sense, because the hope of a sanguine people, both lay and professional, has not been realized in consequence of the demonstrated inadequacy of a method to accomplish all *the people* thought or hoped it would accomplish. When cocaine was discovered and presented to the profession for general use, it was received with acclamations of praise and open arms everywhere and by almost every one. It was used internally and externally, for large, or capital, and minor operations, in large and small doses, for the relief of complaints which previously had resisted all forms of therapeutic treatment, by specialists and by general practitioners, and it was thus generally and freely used with no thought of doing harm to the patients to whom it was administered. It was known to have a certain property—perhaps others—hence it seemed wise to test it on a large scale. Were we wise in so doing? We say Yes; because in this way its exact range of usefulness was determined and its dangers were made manifest. Many misconceptions obtained in relation to this local anæsthetic, which could be dissipated only by careful investigation, conjoined with an intelligent interpretation of results.

Such a searching inquiry has developed the fact that cocaine is a most valuable agent when used within its own legitimate field of usefulness, but a most harmful and dangerous agent when employed outside that field of usefulness. The same statement may be made in regard to Koch's "lymph." There is a question often asked in connection with the use of this new "specific" for tuberculosis; it is this: "May it not be the means of giving rise to a general tubercular infection, or of starting new colonies of bacilli in the lungs, thus creating additional foci of active and progressive disease? These are possible dangers, unless the "lymph" confers immunity upon the already uninvaded tissues, or unless the living tubercular tissue, after having been thoroughly necrosed by the action of the "lymph," is completely got rid of by separation and ejection. But knowledge thus far gained by experimental investigation leads us to believe that we are not exposing our patients to these dangers. On the contrary, I believe that the "lymph" has accomplished thus far all Dr. Koch has alleged for it; more than this it would be unreasonable to expect. This inquiry was made by a person who wished to form an opinion as to the advisability of using the "lymph": "Doctor, would you 'inoculate' one of your own family or a very dear friend?" "No!" said the doctor, "I would not." That question meant a great deal; so did the answer. The answer should have been explained or qualified, for it was apt to give the questioner a wrong impression of this whole matter. If he were unwilling to administer the lymph to one of his own family, why should he consider it good practice to inject the lymph into other invalids just as dear to their families or friends. I have no doubt that the person who asked that question and heard that reply thinks it is cruel and risky experimentation to treat tuberculosis according to Koch's method. However, those who have the opportunity, should continue the work begun by Koch, and, by using great caution and carefully observing and recording results, they will in the near future be in a position to speak at greater length upon this interesting subject, and, we all hope, to the entire satisfaction of every one. Now as to what achievements the method has already won. First let us consider briefly a few cases of lupus such as were treated in Berlin:

Case I.—John B., thirty-five, farmer. Two sisters died of pulmonary phthisis. Parents alive and well. No other member of the family has had lupus. Never had syphilis or gonorrhœa. When thirteen years old had hip-joint disease (left side). Never had pulmonary disease. General health has always been good. Seven years ago had a very severe cold "in his head" for several weeks. After recovering from this condition he noticed an ulcer on his left nostril. It healed on the application of "blue stone," but subsequently developed on the external surface of the nostril. This ulceration began in the fall and continued through the winter, during which time it was cauterized and treated in various ways, but without much benefit. Early the following summer he went to the sea-shore, where the lupoid ulceration entirely healed. The following winter the disease manifested itself again upon the nostril, spreading gradually till it involved the other side. Internal and local treatment were resorted to, with moderate improvement. Went again to the sea-shore the following summer, and the ulceration healed. The disease returned again the next winter, when it was scraped and burned, healing and "breaking out" alternately. When admitted into the hospital—November 28, 1890—his nose was ulcerated on both sides, also the lip near the nasal orifices. There was a slight discharge from the surface of the lupoid tissue, but there was no pain. After an injection of 0·008 gramme, the nose swelled very rapidly till, at the end of six hours, it was of three or four times its natural size. It became very painful and hot. The upper lip and face also swelled to such an extent that the patient could scarcely see. It then began to discharge very freely. Coincidently with this swelling of the face and nose there developed pain in the left hip, the one formerly the seat of disease. This pain lasted only an hour. The swollen condition of his nose continued several days and then began to decline, disappearing in the course of eight or ten days. While the nostril was swollen the throat was sore, but this condition disappeared with the swelling. The "discharge," which appeared after the injection upon the surface of the diseased parts, soon formed into crusts in successive "crops," and were cast off in due time. No subsequent injection, except the eighth, caused any perceptible swelling of the nose. He complained of considerable weakness as a result of the use of the "lymph." Each injection caused a soreness of his throat, mouth, and tongue, which was felt as soon as the fever disappeared. He also had a metallic taste, and expectorated more freely. The sore throat entirely disappeared during the interval between the injections, but the throat remained dry. He received injections every second or third day, and, at the end of the third week of treatment, had made most satisfactory progress. He could breathe more freely, the nose was less tender and sensitive than before treatment was begun, and the ulcerated surface was rapidly healing.

Case II.—Frau G., forty-three, housewife, has had seven children. No history of lupus or tuberculosis in the family. Since the age of four years she has had moderately swollen glands and "sore eyes." The eyes were operated upon when she was twenty-three years old. Six weeks after the operation the first signs of lupus appeared near the external auditory canals. The disease rapidly spread over the cheeks toward the chin and nose, and a little later involved the ears. The lupus progressed very slowly till six years ago, when it advanced very rapidly. There was no pain, but a great deal of itching. The disease was always better in summer than in winter. The first injection of "lymph" caused great swelling of the face and ears. The tongue and mucous membrane of the mouth became covered with blisters. The tongue was swollen to such an extent that the introduction of food into her mouth was accomplished with great difficulty. This swollen condition of the tongue abated very slowly, and, when it finally disappeared, the epithelial covering was cast off. The swelling of the face rapidly disappeared after the first injection, but followed every subsequent administration of the "lymph," becoming less and less pronounced, till finally there was no local reaction. During the reaction the lupoid surface became covered with scabs or crusts formed by the drying and hardening of the serum and pus which appeared as a result of the action of the "lymph" and the disease. That portion of the face which was affected by the disease was made very red by the "lymph," and a sensation of burning was complained of. The ulceration, as the injections were repeated, became less and less pronounced, till finally the surface of the diseased area became covered with firm cuticle. While it is true that this new cuticle was abnormally red, and showed little ridges or nodules at the time of final examination, it was absolutely without a trace of active ulceration or break of any sort. The skin seemed to be as normal as it could be under the circumstances, and was without itchiness or sensitiveness. Pain and swelling of the knee, elbow, and wrist joints sometimes followed the use of the "lymph." There was no headache caused by the injections. Thus we see that in this case apparent cure was wrought in about six weeks.

Case III.—Miss S., seventeen, school-girl. Father died of phthisis. Mother alive and well. Sister had "scrofulous eyes." She developed lupus upon her face and upper and lower extremities eleven years ago. The disease spread slowly, and was accompanied with considerable itching, but no pain. Her general health did not seriously suffer during this time, but the lupus became well pronounced, extending over the face and invading most of the integument of the extremities, especially their anterior surfaces. The first injection caused all the patches of lupoid tissue to swell, also the hand and knee joints. With the swelling there was an increase of itchiness, but no throbbing or pain except in the cheeks and ears. The swelling caused by the first injection did not disappear for a long time (three weeks), but became less pronounced after a few days. During the reaction a large part of the diseased surface "wept," the serum and pus forming into quite thick crusts, which were separated and cast off, leaving underneath them sound cuticle. At the time of observation all the diseased tissue had not been cured, but it was simply because she had not been under treatment a sufficient length of time. As it was, most of the original ulceration had been healed. She had been under treatment about three weeks. In this case there had been but little constitutional disturbance, although she received the usual lupus doses of "lymph."

Can any other treatment accomplish the same results in the same period of time? I think not. What has the "lymph" achieved in pulmonary tuberculosis? Let us see.

Case I.—A. R., eighteen, potter. Father and mother died of non-tubercular disease. Two brothers and two sisters died of pulmonary phthisis, aged from eighteen to thirty-one years. Has five brothers and sisters alive. One brother has disease of the chest. As a child he was scrofulous, but of late years has been healthy. In June of 1890 his present disease began with cough and moderate expectoration, night-sweats, and loss of flesh. In June his weight was 116 pounds. The disease progressed rapidly. He noticed oppression of the chest and want of air. Could not walk up stairs. Condition at time of entrance into hospital: Rather a well-built lad. Weak muscles. Skin delicate and dry. No infiltrated glands. Pulse regular, 90. Appetite good. Thirst increased. Liver normal. Spleen 6 centimetres wide. Better expansion of right chest than of left. Physical examination, November 18, 1890: Over anterior left apex, down to lower edge of third rib, and posteriorly down to lower angle of scapula, dullness on percussion. Over left supraclavicular fossa, metallic râles in such numbers that the respiratory murmur can not be heard. In the fossa supraspinata of the left side and in the left infraclavicular region bronchial breathing on inspiration and expiration. At the right apex occasional mucous râles and harsh respiration. Remainder of lungs normal. Larynx normal; vital capacity 910. Temperature from November 11th to November 25th showed hectic, sometimes reaching 39·2° C., and varying greatly, the acme at one time in the morning, at another time at noon, at still another at some evening hour. Bacilli were found in enormous numbers in his sputum before treatment. Weight, November 25th, 84 pounds. At that time had night-sweats. On that date had 0·002 gramme of "lymph" at 9 A. M. Temperature, 1 P. M., 38·7° C.; fell gradually till 7 A. M. next day.

26th.—At 10 A. M., temperature 38·8° C.

27th.—At 9 A. M. injected 0·003 gramme of "lymph." At 10 A. M., temperature, 39·6° C.; 1 P. M., 39·4° C.; 4 P. M., 37·6° C.

28th.—At 7 A. M., 36·6° C.; 10 A. M., temperature, 38·7° C.; 1 P. M., 38·6° C.; 4 P. M., 36·9° C.

29th.—At 10 A. M. gave under skin 0·005 gramme; 7 P. M., temperature, 38° C.

December 1st.—Injected (10 A. M.) 0·005 gramme of "lymph." Temperature, 1 P. M., 39·4° C.; gradually fell till next day, when it stood 37° C.

On November 26th, day after first injection, he had 10 c. c. of sputum, and there was a circumscribed red spot at the posterior end of the left vocal cord, which disappeared in less than forty-eight hours. Two days after primary injection the râles at left apex were far more numerous, and anteriorly in the region between third and fifth ribs dullness appeared. On November 27th patient complained a good deal of sweating. Late in the evening of November 27th strong percussion in the left fossa infraclavicularis elicited metallic sounds. Over both supraspinous fossæ bronchial breathing and on left side numerous râles. In mammary region of left side many consonant râles and broncho-vesicular breathing.

November 28th.—There was 10 c. c. of sputum. Patient had exanthem on face and his nose was a little swollen. There were spots like measles on thorax. The exanthem changed color rapidly.

29th and 30th.—He had an occasional dry cough but no sputum.

December 1st.—There was 10 c. c. of sputum.

2d.—There was 5 c. c. of sputum.

3d.—At 10 A. M., 0·005 of "lymph"; 1 P. M., temperature, 39° C.; 4 P. M., temperature, 37·7° C.; 9 P. M., temperature, 38·2° C.; 7 A. M., next day, temperature, 36·9° C.; 10 A. M., temperature, 39·5° C.

3d.—On inner side of left arytænoid body a grayish-white discoloration appeared, and at the insertion of the left vocal cord a small ulcer. On this date had 5 c. c. of sputum.

5th.—At 9 A. M. gave 0·007 of "lymph." Temperature, 10 A. M., 39·4° C.; rapidly fell till it reached 37·6° C. at 4 P. M. Then it began to rise and reached 39·4° C. at 7 P. M. Gradually fell during the night, standing at 38·8° C. at 10 A. M. next morning.

7th.—At 9 A. M. injected 0·008 of "lymph"; 1 P. M., temperature, 38·7° C. Gradually fell till 7 A. M. next day, when it was 36·8° C. On this date (December 7th) the percussion note over the entire left lung was shorter than on the right side. At the left apex there were bronchial breathing and consonant râles. Expiratory murmur pronounced at upper half of interscapular region and over left scapula. The râles at left apex less numerous. At the right apex bronchial breathing and numerous râles appeared. Sputum 10 c. c. and contains many bacilli.

9th.—At 10 A. M. injected 0·009 of "lymph"; 1 P. M., temperature, 39·6° C.; it gradually fell till 9 P. M., when it was 37·8° C.

10th.—At 10 A. M., temperature, 38·8° C. Vital capacity, 1,000 (should be 3,000).

11th.—Gave injection of 0·009 of "lymph"; 1 P. M., temperature, 39·5° C.; it fell gradually till 7 P. M., when it was 37° C.; rising again, reaching 38·2° C. at 9 P. M. It fell during the night, standing at 37° C. next morning at seven o'clock; it then rose again to 39·6° C. at 10 A. M.

12th.—In second intercostal space of left side there was cracked-pot sound. At left apex and down to lower third of scapula dullness on percussion, also numerous crackling râles and distant bronchial breathing. At left base occasional râles. In right supraspinous fossa, bronchial breathing and numerous râles. Anteriorly, on left side, dullnesss over lower border of fifth rib. In the axillary region numerous râles. On December 12th, 5 c. c. of sputum.

13th.—At 9 A. M. injected 0·009 of "lymph." Temperature, 10 A. M., 38·6° C.; fell to 36·8° at 4 P. M.; and rose again to 38·9° at 9 P. M.

14th.—Pulse remained 120 all day, but respirations varied very little. No sputum, neither was there any on December 13th.

15th.—At 11 A. M. injected 0·009 of "lymph"; 10 A. M., temperature, 38·4° C.; 1 P. M., 36·3° C., rising only to 37·6° C. at 9 P. M. Feels well.

17th.—At 10 A. M. injected 0·010 of "lymph." Temperature next day, 7 A. M., was 36 5° C.

19th.—At 10 A. M. injected 0·012. Temperature at 4 P. M. 38·3° C.; after that hour gradually fell. The sputum now suddenly increased in quantity, as if a cavity were emptying itself. The quantity was 20 c. c. Patient feels better as a result of treatment. Thinks he can go up stairs better. Has gained four pounds.

CASE II.—Max L., twenty-five, butcher. Parents alive and well. In August, 1888, had apical catarrh. Was six weeks in barracks, and thought to be cured. Since that time, however, he has had slight cough. On August 15, 1890, had a new attack of cough, with expectoration, weakness, pain in left chest, loss of appetite, and occasional dizziness. He drank fifteen pints of beer daily. Condition when he entered the hospital: Pretty strong man. Muscles fairly well developed. Pulse 88, and of good quality. Thorax flat. Over both apices medium-sized râles. Posteriorly, at left apex, percussion note shorter and higher than on opposite side; this is also true anteriorly. Just above the clavicles and over the right supraspinous fossa there was bronchial breathing. In phonation the left vocal cord remained almost immovable. The right vocal cord was slightly congested. The sputum contained masses of bacilli. On October 27th the larynx could be felt to be immobile on left side, or if it moved it was scarcely manifest. On November 4th, dullness at left apex evident. Harsh respiration and small râles. Both vocal cords injected and moderately thickened. Left vocal cord on phonation shows moderate thickening. When in full health weighed 128 pounds. When he entered the hospital his weight was 106 pounds. During time of observation, from October 9th to 18th, he gained 4 pounds. Had never had fever except one night. Had had occasional night-sweats. Sputum was purulent and 100 c. c. in quantity. On November 18th injected 0·002 gramme of "lymph." There was no elevation of temperature following it, nor were there any subjective changes of feeling.

November 20th.—At 11.30 A. M. injected 0·005 gramme. Temperature, 9.30 P. M., 38·2° C. Expectoration, 110 c. c. Vital capacity, 2,300.

21st.—Sputum, 110 c. c. Both vocal cords show small nodular bodies, and at one point an ulceration. Tendency to cough increased.

22d.—Sputum, 70 c. c. Injected 0·005 gramme of "lymph," but no general reaction followed. An ulceration on the left vocal process appeared and increased in size. The free edge of each vocal cord was thickened, the left one being less motile than the right. Sputum, 80 c. c.

24th.—At 8 A. M. injected 0·010 gramme. Temperature, 7 P. M., 39° C. Sputum, 100 c. c.

26th.—At 9 A. M. injected 0·015 gramme of "lymph." Temperature, 7 P. M., 38° C. Complains of pain in back. Vital capacity, 2,200.

27th.—Sputum, 100 c. c. An ulceration appeared upon the arytænoid fold. No other laryngeal change.

28th.—Injected 0·020 gramme of "lymph." An intense injection and swelling of the vocal cords followed. Sputum, 80 c. c.

29th.—Bronchial breathing and dullness in supraclavicular and infraclavicular regions of left side. In left supraspinous fossa, bronchial breathing and pure râles. Vital capacity, 2,450.

30th.—Injected 0·025 gramme of "lymph," with but little reaction (37·8° C.). Sputum, 80 c. c. Few bacilli.

December 2d.—Injected, at 11 A. M., 0·030 gramme of "lymph." Temperature, 9 P. M., 38 2° C. Sputum, 80 c. c. No complaints.

4th.—Injected 0·040 gramme of "lymph." Temperature, 10 A. M., 38·5° C. Sputum, 60 c. c.

5th.—Developed infiltration of lymphatic glands in left axilla, and coincidently with their appearance the temperature began to rise.

6th.—Sputum, 80 c. c.

7th.—At 10 A. M. injected 0·050 gramme of "lymph." Temperature, 7 to 9 P. M., 39° C. No bacilli in two specimens of sputum. At posterior edge of right vocal cord there was a discoloration, but no ulceration evident. Sputum, 80 c. c.

10th.—There was an ulceration at posterior end of the right vocal cord.

11th.—Injected 0·060 gramme, which caused no rise of temperature. Sputum, 40 c. c. Vital capacity, 2,500.

12th.—Sputum, 40 c. c. Râles at left apex decreased. Lymphatic glands of axillæ still infiltrated. The ulceration on the right vocal process still present.

13th.—Injected 0·070 gramme of "lymph" without producing any reaction. Sputum, 30 c. c. Feels well.

15th.—Sputum, 40 c. c. Injected 0·090 gramme of "lymph," but without reaction.

17th.—Injected *100 milligrammes without reaction.* Vital capacity, 2,200. Sputum, 60 c. c.

18th.—Feels well. Sputum frothy and mucous in character. Somewhat purulent in the morning.

19th.—Gave 100 milligrammes without reaction.

21st.—Gave *120 milligrammes* without reaction. Sputum, 60 c. c. Motility of left vocal cord returned. Weight one hundred and fourteen pounds—a gain of four pounds.

CASE III.—Mrs. E., about forty, housewife. Father died of consumption. Mother and two brothers healthy. Always sickly as a child. Not scrofulous. Menstruated at sixteen. Has had one child. Five years ago had "throat trouble." Has always had bronchitis. During the last year and a half has lost in weight; before that, weighed 128 pounds. She complained on December 9th of general weakness, cough, expectoration, and pain in the epigastrium. Condition when she entered the hospital: Face expressed suffering; suspicion of syphilis; no œdema; skin anæmic and dry; tongue shows no coating; tonsils and pharynx normal; spleen rather large; stomach dilated; uterus retroflexed. The inter-arytænoid folds are swollen, and cover the vocal cords as a projection. She is hoarse. No true ulceration to be seen within the larynx. Dullness over left clavicle and harsh vesicular breathing and moist râles at left apex. Posteriorly at left apex consolidation for about two fingers' breadth. All other portions of the lungs free from disease. The sputum was purulent and contained many bacilli. When she came to hospital she weighed 93 pounds. When first injected, November 21st, weighed 92 pounds. From September 9th to November 21st had more or less diarrhœa. Her temperature was generally a low hectic—36° or 36·5° C. in the morning and 37° or 38° C. in the evening. Just before the first injection both apices were dull above the scapular spines, the left side showing more dullness than the right. Occasional râles at both apices, and on the left side tubular expiration and low consonant rales posteriorly. Anteriorly dullness seems greater at right apex. No chest pains. Laryngoscope shows some projection of the inter-arytænoid fold. Vocal cords close imperfectly on phonation. The true vocal cords a little reddened. The ventricular bands slightly swollen. During September she had night-sweats, but in October they were less profuse. History of case since injections with lymph:

November 21st.—At 8 A. M. injected 0·002 gramme of "lymph"; 6 P. M., temperature, 37° C.; pulse, 90; respirations, 22.

22d.—At 8 A. M. injected 0·005 gramme of "lymph"; temperature, 6 P. M., 38° C.; pulse, 110; respiration, 28. The first two injections on two successive days produced no typical rise of temperature. On both evenings during the action of the remedy she complained of great weakness. No laryngeal or pulmonary changes. On the morning of the third day complained of dizziness and nausea. The sputum contained a small quantity of blood for the first time since the injections were begun. It may be said here that early in November she had an hæmoptysis.

24th.—At 8 A. M. injected 0·008 gramme of "lymph." Temperature, 6 P. M., 38° C. Temperature fell gradually till next morning at six o'clock, when it was 36·3° C. Dullness at the apices increased after the injections. On the left side it extended to the fifth vertebra, on the right side to the spine of the scapula. This increase of dullness is regarded as the local reaction of the lung.

25th.—Increased diarrhœa. Sleeps poorly. Temperature 36·6° C. in the evening. At left apex, bronchial breathing. At right apex, internal bronchial breathing.

26th.—At 9 A. M. injected 0·010 gramme of "lymph." Temperature in the evening 38·6° C. At 4 P. M. of same day had a chill, headache, and pain in chest and back, also nausea. Her constitutional reaction was as great as in others who had a temperature of 40° C. She had some local changes with a low temperature (38·6° C.), as others had with a high (40° C.) temperature. On the evening of this day could hear no râles at apices. The projection of the inter-arytænoid fold which was injected appeared pale.

27th and 28th.—Temperature normal, also pulse and respiration. She has less diarrhœa and feels comparatively well.

Many more cases might be quoted, but space does not permit, and a careful consideration of a few, reported in detail, furnishes more food for mental digestion than the hasty consideration of many histories reported too briefly. I think the records of these cases prove that the "lymph" has achieved its victories already.

THE
NEW YORK MEDICAL JOURNAL,
A Weekly Review of Medicine.
Published by
D. APPLETON & CO.
Edited by
FRANK P. FOSTER, M. D.

NEW YORK, SATURDAY, JANUARY 24, 1891.

THE CHARACTERISTIC ORGANISM OF CANCER.

THE various announcements that have been made of the discovery of a cancer bacillus have not been confirmed by subsequent observations, and it was probably due to Virchow's suggestion that certain structures in molluscum contagiosum resembled *Gregarinæ* that Bollinger studied the subject and proclaimed the identity of the organisms. In 1888 Neisser published a paper placing the parasite in the *Sporozoa*. In 1889 Thoma published a paper describing a nucleated, unicellular organism found singly or in groups in the cells of carcinoma. In 1890 Wickham published a description of a double-contoured capsule containing protoplasm that he had found in Paget's disease of the nipple. Subsequently Sjöbring described a spore-forming protozoon found in carcinoma, and still later Melassez professed to have first discovered the sporosperm in 1885 in an epithelial cancer given him for examination by Albarrau. Melassez stated that at the time he had regarded it as adventitious, but that, as the same organism was found at other times in cancerous tumors, he now regarded its presence as causative. In numerous examinations of epithelioma Vincent has found bodies of about the size of a mucus-corpuscle, surrounded by a thin or thick refractive membrane, with the contained protoplasm either amorphous, granular, or pigmented, and the nucleus round, triangular, or polygonal.

In a remarkably well illustrated article in the *British Medical Journal* for December 13th, Dr. Russell reports the results of his examinations of tissues from fifty or sixty different cases, including sarcomata, fibromata, papillomata, myomata, condylomata, primary syphilitic sores, etc., in which he found what he terms "fuchsine bodies" only in a case of chronic ulcer of the leg, in a case of tuberculous disease of a joint with old sinuses, in an intractable and exceptionally severe case of syphilis in which there was extensive destruction of the fauces, larynx, and vertebræ in six weeks from the infection, in an old specimen of apparent adenoma of the mamma, and in a gummatous tumor of the meninges. In two of these cases there was the possibility of contamination of the free ulcerated surface by the organism, and in the syphilitic cases possibly there was dual infection. Forty-five different specimens of cancer were examined, including epitheliomata of the lips, face, and antrum, rodent ulcer, primary and recurrent scirrhus of the mamma, spreading papilloma of the foot, cancers of the stomach, spleen, liver, abdominal glands, suprarenal capsules, uterus, and ovaries, and malignant adenoma of the cervical glands. In only two cases were no "fuchsine bodies" found. In one of them the situation of the growth was uncertain, and in the other the specimen was from a bottle labeled "epithelioma" and dated 1885.

The sections are placed in water, then stained with a saturated solution of fuchsine in a two-per-cent. carbolic-acid solution for ten minutes or longer, then washed in water, laid in absolute alcohol for half a minute, put into a one-per-cent. solution of Grüber's iodine green in a two-per-cent. solution of carbolic acid, where they are allowed to remain for five minutes, then dehydrated, passed through oil of cloves, and mounted in balsam. The iodine green replaces the fuchsine in every element except the "fuchsine bodies." These can be found with a lens magnifying a hundred diameters and an Abbé condenser. Their average diameter is 4 μ, but they may attain that of 12 μ.

According to most of the observers, these bodies belong to the *Sporospermiæ*, an order of the *Sporozoa*. In this order reproduction takes place by means of spores formed in the interior of the adult organism, and in these spores are developed sickle-shaped bodies that form new organisms when they escape from the spore. Dr. Russell found bodies that gave out a small bud that increased its distance from the parent, remaining attached for a time by a delicate filament. He therefore believes that the organism is a sprouting fungus belonging to the same class as the yeast fungus. He acknowledges that bodies of this kind are not found in every specimen or in every section, and possibly the method of staining employed acts best at certain stages of their growth. Further study of the subject is evidently necessary to settle this, and we commend it to our pathologists.

MINOR PARAGRAPHS.

NEVER SAY "NO DANGER!"

In a clinical lecture by Dr. William Goodell, in the *Journal of the American Medical Association*, he recounts a bitter piece of experience having for its moral the admonition above given. He said in regard to an event that occurred some years ago: "I was asked by a patient upon whom I was about to operate at one sitting for a laceration of both the cervix and the perinæum, whether there was any danger to be anticipated from the anæsthetic, ether, which was proposed to be used. I laughed her to scorn and called it the child's play of the operation. But mark the result: both operations were performed, and satisfactorily too, as it seemed, but, as the patient emerged from the ether narcosis, incessant vomiting set in which could not be controlled by any means known to me or to a consultant whom I called in. On the fifth day she died from heart failure from this very etherization regarding which I had said there was no danger. Therefore, I now never tell a patient that there is no danger in any operation." Dr. Goodell is right when he lays before his class the caution not to promise too much to their patients, and not to feel too sanguine as to results, for, as no one can be sure what the day may bring forth, so no one can certainly say what an operation may bring forth.

A NEW JOURNAL OF BACTERIOLOGY.

The *Bacteriological World* is the title of a new monthly journal edited by Dr. Paul Paquin, of the bacteriological laboratory of the Missouri State University. The first number is dated January, 1891. If we may judge of the journal by that number, it is designed rather to present matters more or less closely connected with bacteriology in terms readily intelligible by the ordinary practitioner than to form a medium for such communications as professed bacteriologists would be likely to prepare for the perusal of other investigators. The editor has therefore chosen a difficult task, for we all know that it is far easier to record observations and offer comments in the language of the laboratory than to make one's meaning clear to those who have no special familiarity with the subject. We expect to see him succeed, however, and in that event his journal will be one of great usefulness to the medical profession at large.

THE NEW YORK PHYSICIANS' MUTUAL AID ASSOCIATION.

On many occasions we have called attention to this association's beneficent work, and each time there has been substantial progress to record. The recent annual report shows a present membership of 914, an increase of close on to 200 during the year 1890. The amount now paid on the decease of a member is $825.00, and we learn that the sum will be limited to $1,000.00, no matter how large the membership becomes. The initiation fee is graduated according to the applicant's age, being $2.00 for those under thirty years of age, $3.00 for those between thirty and forty, $4.00 for those between forty and forty-five, and $5.00 for those between forty five and fifty. We would again urge those of our readers who are eligible to join the association.

AN EARLY ATAXIC SIGN.

Weiss, of Vienna, says that an early symptom of locomotor ataxia is an inability on the part of the patient to walk backward, while as yet, and in other ways, he may be able to walk with firmness and rapidity. Perron, of Bordeaux, has also, as we stated several weeks ago, recently suggested an early diagnostic sign, which is simply a modification of the Romberg test —namely, causing the suspected ataxic patient to stand upon one leg, instead of two, with the eyes closed. If the patient shows a tendency to fall, it may be inferred that the spinal trouble has begun which will lead on to locomotor ataxia, even if the Romberg test fails, as it not infrequently does in cases that are not well advanced.

ANÆSTHESIA OF THE GASSERIAN GANGLION TO RELIEVE OBSTINATE PHOTOPHOBIA.

The very common symptom of sneezing, which occurs in patients suffering from acute keratitis when the lids are opened and the light falls upon the cornea, is said by Guttierez-Ponce, in the *Recueil d'ophthalmologie*, to be relieved by the instillation of a few drops of chloroform into the auditory meatus. This produces anæsthesia of the Gasserian ganglion. After a few minutes the eye can be opened and thoroughly examined without exciting sneezing or the other symptoms of photophobia.

AVULSION OF THE SCROTUM.

In a recent number of the *British Medical Journal* Mr. Stolkarrt reported an unusual accident in a young man he was called to see, in whom the scrotum was torn and the tunica vaginalis of each side opened into, exposing the testicles. The patient and his paramour had been drinking the previous night, and on returning home she expressed a desire for sexual intercourse, that was not gratified by the man, whereupon she seized his scrotum and wrenched it from its attachments with the results above noted. The patient recovered.

MENTHA PULEGIUM.

In *Nouveaux remèdes* for December, Marshall describes the physiological action of the oil of mentha pulegium (pennyroyal). E. Falk, in the *Therapeutische Monatshefte* for September, 1890, also gives the results of his experiments with this drug. Rabbits, after subcutaneous injections of from a gramme to three grammes of the oil, soon lost the power of co-ordination, and total paralysis and death quickly supervened. Before death the urine became diminished, and contained cylinders and albumin, also leucine and tyrosine. Generally the blood-pressure was slightly augmented and the pulse retarded, seemingly in consequence of central excitation of the pneumogastric. The autopsy revealed pronounced fatty degeneration of the liver and heart. The degeneration of the kidneys was slight. As an emmenagogue and abortifacient the drug is said to be infallible, but, according to the authors, it is a dangerous remedy on account of its deleterious effects on the tissues.

AMERICAN NOSTRUMS IN ITALY.

The fly that causeth our ointment to stink—the American patent medicine—is being driven out by the Italian government. The representatives of this generally knavish line of business resident at Rome complain that the government shows an unmistakable tendency to carry out the law bearing on this subject in a manner that will virtually prohibit the sale in Italy of American concoctions called medicines. We congratulate the Italian people and their governors.

ITEMS, ETC.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported during the two weeks ending January 20, 1891:

DISEASES.	Week ending Jan. 13.		Week ending Jan. 20.	
	Cases.	Deaths.	Cases.	Deaths.
Typhus fever	0	0	0	0
Typhoid fever	4	2	8	3
Scarlet fever	147	14	135	17
Cerebro-spinal meningitis	3	3	2	1
Measles	425	16	380	24
Diphtheria	104	18	95	21
Small-pox	0	0	0	0
Varicella	7	0	13	0
Whooping-cough	0	0	1	0

The Journal of Cutaneous and Genito-urinary Diseases.—An apology is due the editors of this excellent journal for our omission to state, in the article on Second Infections with Syphilis which appeared in our last issue, that the accounts of Dr. Taylor's cases, of which free use was made, appeared in its December number.

The American Nurses' Association.—The object of this organization, having its headquarters in New York, is a union for protection, provision in sickness, an annuity fund, burial insurance, and friendly promotion of the professional interests of nurses; also it is proposed to have a loaning fund which may be drawn upon by members when disabled in the pursuit of their regular occupation.

The Centennial of the Connecticut State Medical Society.—This society will be a hundred years old in October, 1892. Arrangements are now being made to observe the occasion by means of a grand reunion of the profession of the State. Dr. Gurdon W. Russell, of Hartford, has been appointed to prepare a medico-historical sketch of the colonial period and subsequent years up to 1792, and Dr. Francis Bacon, of New Haven, has been invited to write the subsequent history.

Shoemaker's Materia Medica.—The second volume of a work entitled *A Treatise on Materia Medica, Pharmacology, and Therapeutics* having been announced as in press, Dr. John Aulde, of Philadelphia, has issued a circular stating that the use of his name as that of a joint author of the book with Dr. John V. Shoemaker is unauthorized.

A Koch Institute in New York.—We are informed that Dr. A. I. Aronson will open an institution at No. 196 East Broadway, on the 31st inst., for the treatment of tuberculous patients by the Koch method, and that Dr. A. Jacobi will act as consulting physician.

Naval Intelligence.—*Official List of Changes in the Medical Corps of the United States Navy for the two weeks ending January 17, 1891:*

Pickrell, G. McC., Assistant Surgeon. Detached from U. S. Receiving-ship Minnesota, and to await orders.

McCormick, A. M. D., Assistant Surgeon. Ordered to the U. S. Receiving-ship Minnesota as Dr. Pickrell's relief.

Ruth, M. L., Surgeon. Ordered to the U. S. Steamer Newark. February 2, 1891.

Rush, W. H., Passed Assistant Surgeon. Detached from U. S. Steamer Saratoga, and ordered to the U. S. Steamer Newark. February 2, 1891.

Ashbridge, Richard, Passed Assistant Surgeon. Ordered to the U. S. Steamer Saratoga.

Hord, W. T., Medical Director. Ordered as President of Medical Board, to relieve Medical Director J. Y. Taylor.

Dean, R. C., Medical Director. Detached from Hospital at Chelsea and assigned to Medical Board, Washington, D. C.

Taylor, J. Y., Medical Director. To be placed on the Retired List January 22d.

Rush, W. H., Passed Assistant Surgeon. Orders to the Newark are revoked.

Ashbridge, Richard, Passed Assistant Surgeon. Orders to the Saratoga revoked and to wait orders.

Cabell, A. G., Passed Assistant Surgeon. Detached from Ironclads and ordered to the Newark.

Lumsden, G. P., Passed Assistant Surgeon. Ordered to the Ironclads at Richmond, Va.

Society Meetings for the Coming Week:

Monday, *January 26th:* Medical Society of the County of New York; Boston Society for Medical Improvement; Lawrence, Mass., Medical Club (private); Cambridge, Mass., Society for Medical Improvement; Baltimore Medical Association.

Tuesday, *January 27th:* New York Academy of Medicine (Section in Laryngology and Rhinology); New York Dermatological Society; Buffalo Obstetrical Society; Medical Societies of the Counties of Onondaga (semi-annual, Syracuse) and Putnam (semi-annual), N. Y.; Boston Society of Medical Sciences (private).

Wednesday, *January 28th:* New York Surgical Society; New York Pathological Society; Medical Society of the County of Albany; Auburn, N. Y., City Medical Association; Berkshire, Mass. (Pittsfield), and Middlesex North, Mass. (Lowell), District Medical Societies; Gloucester, N. J., County Medical Society (quarterly); Philadelphia County Medical Society.

Proceedings of Societies.

AMERICAN LARYNGOLOGICAL ASSOCIATION.

Twelfth Annual Congress, held at Baltimore, on Thursday, Friday, and Saturday, May 29, 30, and 31, 1890.

The President, Dr. John N. Mackenzie, of Baltimore, in the Chair.

(*Continued from page 363.*)

The Condition known as "Chorditis Tuberosa" was the title of a paper read by Dr. C. C. Rice. (See page 85.)

Dr. Westbrook: I recall the case of a lady about forty years of age, who I do not think was a singer, certainly not an opera singer, although a great talker, who had the condition which Dr. Rice has just described upon the left vocal band. She had a nodule situated near the junction of the posterior and middle thirds, growing from the vocal process forward. I treated it almost entirely with the fifty-per-cent. solution of nitrate of silver. The growth diminished gradually under the treatment, and was much reduced when she deserted me and went to another physician. The last that I heard of it was that it was still shrinking. I think that the same plan of treatment was pursued by the physician to whom she went. I mention this case because it occurred in a person not a singer.

Dr. Daly: The few cases of this disease that I have treated have been, with only one or two exceptions, in patients with tuberculous tendencies, either inherited or acquired. They all belonged to families in which one or more members had died with tuberculous consumption. One very striking case was under my care for a year and a half at intervals, and yielded to persistent applications of strong solutions of iodine. The nodules were absorbed, gradually disappearing, and the vocal bands were revealed clear and white; but after some three or four months there was a return of the disease. In the incipient form I find a mere film of material easily brushed off with a probang, or a piece of cotton on an applicator. While I have never seen a case where the patient used his voice in singing, yet one of the cases I refer to was fond of talking a great deal—a seamstress by occupation; I believe that she is in good health now. I have not seen or heard of her for two years. My opinion is that these cases are curable, and without any severe operation. I have once removed these nodules by scraping with my forefinger nail, or by slightly irritating the cords absorption is favored. I would make the remark that in tuberculous families this condition of the larynx is not uncommon. [As I am revising this note I learn that this patient alluded to died of laryngeal phthisis three months ago.]

Dr. Delavan: I have observed this condition most frequently upon the right side of the larynx, and in females. Applications of solutions of iodine have given good results in such cases. A few years ago it was recommended to force a probang covered with cotton through the glottis, in the hope that the granulations might thus be scraped away. I have not found this method a success. I would ask the reader of the paper to describe the instrument which he uses, and to state whether or not there would be any probability of injuring the delicate free border of the vocal cords as a result of its use.

The President: We should distinguish between a mere granular condition of the vocal cords and the genuine chorditis tuberosa as described by Türck. In the first, by the application of strong solutions, such as iodine, a cure can be effected. In the second case, where the whole cord is converted into a band, like a granular lid, they can not do much good. I also doubt very much, from physiological considerations, whether much good could be done by operation. The whole structure—all the tissues—are in a hypertrophied condition. I doubt even if we were to remove the granular surface, whether the cord would be restored to its functions, as in the case of a singer, for example. The condition of granular cord is occasionally seen in singers and public speakers; but experience shows that the condition of chorditis tuberosa is usually met with in the lower walks of life, among hospital and dispensary cases, and is usually incurable.

Dr. Rice: I have never noticed the relation between these growths and tubercular disease which Dr. Daly speaks of. My patients have been very healthy people. I can not even recall a tubercular family history. I do not think it is easy to confound these cases with old ulcerated conditions of the vocal bands due to tubercular deposits followed by ulceration and granulation. I have seen chorditis tuberosa almost always in singers, and I believe that the general infiltration, thickening, and appearances of chronic inflammation in both bands are the result of using the voice after the primary nodule has formed. It is difficult to restore the voice in singers if the nodule has been present for a long time and has caused general thickening, but when the case is seen early the prognosis is very good. Proper instruction in correct vocal methods is very important in these cases. In answer to Dr. Delavan, I use a small snap guillotine which I have modified so as to reach either the anterior or posterior commissure of the larynx as well as any part of the vocal bands. It is only possible to take hold of the protruding part of the growth; it is not possible to injure any part of the vocal bands with this instrument. The after-treatment consists in resting the voice and the application of appropriate astringents to the larynx.

(*To be continued.*)

Book Notices.

Memorial Sketches of Dr. Moses Gunn. By his Wife. With Extracts from his Letters and Eulogistic Tributes from his Colleagues and Friends. Chicago: W. T. Keener, 1890. Pp. xx–380.

It is said that "no man is a hero to his valet," and the text needs no commentary for its elucidation; yet how much less of the heroic can be sustained before so intimate an associate as a wife, and how many excellent qualities must be possessed to insure such womanly and tender acknowledgment as is frankly made in this volume!

Professor Gunn was born in New York State in 1832, and was graduated in medicine at Geneva in 1846. He went to Ann Arbor, Mich., at once to practice, and in 1850 was appointed professor of anatomy and surgery in the medical college at that place. Subsequently he went to Chicago, where he lived, taught, and practiced his specialty of surgery for the rest of his life. He was an excellent surgeon, a hard worker, and a popular teacher, and but for the Chicago fire would have left as a memorial a volume on surgery that was destroyed in manuscript in that catastrophe.

He was devoted to his profession for itself, and not for any renown that it might afford. A letter written during McClellan's campaign, in answer to a criticism on the lack of reference to the medical corps in the dispatches, gives a summary of his opinion of the popular regard for the profession: "We may brave the pestilence when all others flee; we may remain firm at our posts when death is more imminent than it ever was on the battle-field; but who sings our praise? Does the world know who the physicians were who fell at Norfolk when yellow fever depopulated that town? Does it know who rushed in to fill their places? And of those who survived, can it designate one? Did they survive to receive fame? Yet those men were braver than the bravest military leader, for theirs was a bravery unsupported by excitement or by the hope of fame. No! there are none so poor as to do us reverence. And, thank God, there are few of us so unsophisticated as to expect it."

This present volume is largely composed of personal letters and the correspondence of his friends, and will undoubtedly be of great interest to the many students that listened to his lectures and learned to appreciate his worth.

Lehrbuch der allgemeinen und speciellen pathologischen Anatomie für Aerzte und Studirende. Von Dr. Ernst Ziegler, Professor der pathologischen Anatomie und der allgemeinen Pathologie an der Universität Freiburg in Baden. Zwei Bände. Sechste neu bearbeitete Auflage. Zweiter Band. Specielle pathologische Anatomie. Mit 435 theils schwarzen, theils farbigen Abbildungen. Jena: Gustav Fischer, 1890. Pp. xii–3 to 1024. [Preis, Mrk. 16.]

It is a little over a year since the first volume of the sixth edition of this excellent work appeared, and all that was then said in its favor can be appropriately applied to this volume. There have been additions to the chapters on endocarditis, arteritis, aneurysm, gastritis, enteritis, pneumonia, and acute and chronic nephritis.

We believe the work to be unsurpassed for the use of either the student or the practitioner.

Les microbes, les ferments et les moisissures. Par le Dr. E. L. Trouessart. Deuxième édition, revue, corrigée et considérablement augmentée. Avec 132 figures dans le texte. Paris: Felix Alcan, 1891. Pp. xi–282.

The first edition of this work, published five years ago, was translated for the *International Scientific Series*, and is undoubtedly familiar to many of our readers. The constant advances in the science of bacteriology have required numerous additions to the matter in the original work, and this volume contains not only new illustrations, but additions to the chapters on rabies, on intermittent fever, on cholera, on epidemic influenza, and on pneumonia; and the theories of phagocytosis, non-specificity, and microbial association are presented in a lucid manner.

The volume is intended not only for the lay reader, but for those medical men that desire to possess a clear idea of the subjects of microbes, ferments, and molds without the necessity of studying the mass of associated detail in most of the text-books on those subjects.

A Manual of Auscultation and Percussion. By Austin Flint, M. D., LL. D., Professor of the Principles and Practice of Medicine and of Clinical Medicine in the Bellevue Hospital Medical College, etc. Fifth Edition, thoroughly revised by J. C. Wilson, M. D., Lecturer on Physical Diagnosis in the Jefferson Medical College, etc. Philadelphia: Lea Brothers & Co., 1890.

This excellent manual is so well known that extended comment on it is unnecessary. It is evident that the work still retains its popularity, in spite of the fact that its author has been dead for several years. The last edition appeared in 1885, while Dr. Flint was still living, and had been thoroughly revised by him, one marked improvement being the introduction of some plates taken from Weil's *Topographische Percussion.* The present edition is equally satisfactory. The editor has, we think, used good judgment in giving us the book practically as Dr. Flint left it. He has apparently found nothing to alter and but little to add. We know of no better text-book on the subject of which it treats.

The Physician's All-requisite Account-Book. Philadelphia: F. A. Davis.

This account-book has much to recommend it. Its plan is very simple and yet comprehensive. Each page contains spaces for the accounts of three families for twelve months. The book is published in two sizes, for nine hundred and eighteen hundred accounts. The publisher states that it will meet all the requirements of the law and courts.

The Medical Bulletin Visiting-List. New Edition. Philadelphia: F. A. Davis, 1891.

This visiting-list is arranged upon a convenient monthly and weekly plan for recording professional calls. It is without dates and may be begun at any time. It contains, in addition, a great variety of useful data, rather more than is usually found in such books. A novel feature is a table of fees.

The Physician's Visiting-List, 1891. Philadelphia: P. Blakiston, Son, & Co.

This popular visiting-list is now in its fortieth year of publication. The writer has used it with great satisfaction for over ten years. It is published in four styles; regular weekly edition (dated, for 25, 50, 75, or 100 patients a week); interleaved weekly edition; monthly edition (without dates), and perpetual edition (without dates and containing space for 1,300 or 2,600 names).

BOOKS AND PAMPHLETS RECEIVED.

Œuvres complètes de J. M. Charcot. Hémorragie et ramollissement au cerveau; métallothérapie et hypnotisme; électrothérapie. Tome IX. Avec 34 figures dans la texte et 13 planches. Paris: Lecrosnier et Babé, 1890. Pp. viii–571. [Prix, 15*fr.*] [Publications du *Progrès médical.*]

Du chimisme stomacal (digestion normale—dyspepsie). Par Georges Hayem, professeur de thérapeutique à la Faculté de médecine de Paris, etc., et J. Winter, préparateur du laboratoire de thérapeutique à la Faculté de médecine de Paris. Paris: G. Masson, 1891. Pp. 274. [Prix, 4*fr.*]

Chattanooga as a Health Resort. By W C. Townes, Ph. B., M. D. (Univ. of Pa.). [Reprinted from the *Journal of the American Medical Association.*]

Antisepsis and Asepsis before and after Major Gynæcological Operations. By Howard A. Kelly, M. D., Baltimore. [Reprinted from the *American Journal of the Medical Sciences.*]

The Dangers arising from Syphilis in the Practice of Dentistry. By L. Duncan Bulkley, A. M., M. D. [Reprinted from the *International Dental Journal.*]

Die systematische Behandlung der Angina Pectoris mit Nitroglycerin. Von William Murrell, M. D., etc. [Sonderabdruck aus *Therapeutische Monatshefte.*]

The Treatment of the Morphine Disease. By J. B. Mattison, M. D., of Brooklyn, N. Y. [Reprinted from the *Therapeutic Gazette.*]

Reports on the Progress of Medicine.

OTOLOGY.

By CHARLES STEDMAN BULL, A. M., M. D.

Otitis Externa Hæmorrhagica.—Bacon (*Arch. of Otology,* xix, 1) draws the following conclusions from his experience of the above class of cases: 1. Otitis externa hæmorrhagica is a rare form of disease. 2. It should be considered as a disease *per se*—an inflammation of the external auditory canal. 3. It occurs more frequently among the young, although it may be found in the case of those advanced in years. 4. Males are more frequently affected than females. The left meatus is more frequently involved than the right. The pain is usually not severe. 5. The vesicles are usually found on the inferior wall of the bony auditory canal, although they may be situated on the anterior or posterior walls, and even extend to the drumhead.

Idiopathic Perichondritis of the Auricle.—Ferrer (*Arch. of Otology*, xix, 1) reports a case of this kind occurring in a young woman, aged eighteen, who complained of having had severe pain in the left ear for several nights. Two days later he was again sent for, and found her in bed complaining of a sharp, shooting, continuous, and deep-seated pain. Nothing was found on examination except pain on strong pressure upon the tragus. He applied a Priessnitz bandage and prescribed opium internally. On the removal of the bandage the following day, the anterior wall of the external meatus at the base of the tragus was red, swollen, and very sensitive. The same treatment was continued, as he suspected a furuncle; but each night was worse, and the swelling gradually increased until the orifice of the meatus was reduced to half its normal size. During the entire course of the disease the rise of temperature was very insignificant. On the fifteenth day he made a long incision in the meatus, cutting through its entire thickness, but nothing but blood escaped. The following night the patient was easier, but returned on the second night. The swelling had not diminished, but had extended to the entire circumference of the meatus and completely closed it. The wound was injected with a two-and-a-half-per-cent. solution of carbolic acid, a gauze drain was introduced, and antiseptic dressings were applied. The swelling gradually extended to the tragus anteriorly, into the cavity of the concha posteriorly, thence to the anthelix, to the descending portion of the helix, and backward to the eminentia conchæ. The upper portions of the auricle became slowly affected in turn until all were involved. In about three weeks the auricle was so deformed that none of its parts could be recognized. It stood out at right angles to the head, and was from three to three and a half centimetres thick. It was livid-red in color, very hard and sensitive to the touch, and of increased temperature. The entire auricle appeared like a deformed mass of raw flesh. The lobule was not perceptibly involved. The same treatment was continued, and on the twenty-third day, fluctuation being detected, another large incision was made in the posterior surface of the auricle and one in the raised skin of the concha, and about a teaspoonful of sero-purulent fluid was evacuated. Poultices were kept on the ear, and the diseased parts thoroughly injected from one opening to the other. The swelling continued for about six weeks longer, and then began to subside. It was soon seen that the auricle was shrunken and much disfigured. The entire cartilaginous structure was destroyed, and the cutis was much wrinkled. The meatus was irregular in shape, but nearly normal in size. The hearing was restored, and the membrana tympani was not affected.

Malformation of the Auricle; Plastic Operation for the Cure of the Deformity.—Bacon (*Arch. of Otology*, xix, 1) reports a case of this kind occurring in a young girl aged fourteen. The attachment of the right auricle was somewhat higher than the left, and the auricle hung downward and forward. It was smaller than the left auricle, and the cartilage was thinner. The right eye was higher than the left, and the lower part of the face seemed drawn toward the left side. On October 15, 1889, he removed an elliptical portion of integument and connective tissue, three quarters of an inch wide and two inches and a quarter long, from the posterior and upper portion of the auricle, beginning at the commencement of the helix, and carrying the incision along the fold at the attachment of the auricle almost to the lobule. The integument and connective tissue having been dissected off, the cartilage was bent back on itself but not divided, and the different folds and depressions on the auricle were thus brought out. The edges of the incision were united by eight deep silk sutures introduced and passed through the posterior surface of the cartilage to hold it in better position, thus pulling the auricle upward and backward. Five catgut sutures were also used to bring the edges carefully together. The parts were washed with bichloride solution (1 to 3,000) and dusted with iodoform, and then covered with gauze, and a pressure bandage was applied. On November 6th a second incision was made, beginning at the upper point of the first, and carrying it downward two thirds of the length of the pinna, and another small slice was removed. The edges were then stitched together and the wound was dressed as before. The result was satisfactory.

The Bacteriology of some Inflammatory Processes of the Middle Ear and Mastoid Cells.—Kauthack (*Arch. of Otology*, xix, 1) here gives the results of his investigations in fifty-seven cases, consisting of acute otitis media, chronic otitis media, suppuration of the mastoid process, and exudations in the tympanic cavity. The methods employed were as follows: The pinna, meatus, and cheek were cleansed as carefully as possible with a solution of corrosive sublimate. Whenever a paracentesis was necessary, he applied to Dr. Hartmann; who removed a trace of pus or exudation with a sterilized platinum needle. Having in every case obtained the material with all the precautions demanded by Koch's method, small test-tubes containing a few cubic centimetres of bouillon were inoculated, and then taken to the bacteriological laboratory of the Pathological Institute to be further worked out. Agar cultivations were made, other larger test-tubes containing bouillon were inoculated, and three gelatin plates were prepared. In acute cases he often found the *Diplococcus pneumoniæ* alone or together with other cocci or bacilli, but in true chronic cases he never succeeded in obtaining it. His results in the main agree with those given by Gradenigo.

Ossification of the Auricle in Consequence of Perichondritis Seropurulenta.—Knapp (*Arch. of Otology*, xix, 1) reports a case of this kind occurring in a man aged twenty-two. The first trouble in the ear began when he was a boy of fifteen. There appeared one morning two little swellings on the edge of the ear, side by side. They did not itch, were quite soft, and but slightly reddened. In a few days the two swellings had merged into one, which seemed to contain fluid. Three weeks later this was lanced and a clear fluid evacuated. In a week the swelling was as large as ever and was again opened. The wound again healed, but the swelling did not lessen. Some months later it began to swell very rapidly, became enormous in size, and grew red, hard, heavy, and very painful. It was again lanced and a large quantity of pus came out. It was then poulticed several times a day for some time, and finally diminished in size to the condition which existed before the development of the abscess. But the ear had lost its softness and was becoming hard, and in about a year from the time of the beginning of the trouble it was as hard as a rock. When Knapp saw the patient the hearing was good, but the auricle presented the peculiar deformity caused by perichondritis. It was thickened and contracted, the natural contours being replaced by irregular elevations and depressions. Knapp made an incision through the skin and subcutaneous tissue down to the hard part of the tumor along its upper and posterior sides; then another, parallel with the first but in front of it, joining its upper and lower ends, and thus circumscribing a narrow strip of soft tissue which corresponded to the crest of the cylindrical ridge. He dissected the neighboring tough tissue from the bony mass on both sides, seized this mass with a strong forceps, and cut it out with bone-scissors throughout its entire length. The bulk of the tumor was thus removed and smaller pieces were then cut away. The bony mass removed was an inch and a half long and four lines wide. There was considerable loss of substance after the removal of the bone. This loss of substance, after careful union of the edges of the wound with each other by numerous silk sutures which were passed through the bottom of the wound, had the advantage of producing a groove which restored the fossa of the helix. The wound healed by primary union. The anatomical examination of the specimen showed real bone tissue, with Haversian canals surrounded by concentric layers of bone corpuscles.

Primary Mastoid Periostitis.—Ayres (*Arch. of Otology*, xix, 2 and 3) reports two cases of this disease. The first case was that of a man who had marked swelling over the mastoid region on the right side. There was displacement of the auricle forward and great tenderness on pressure. The mastoid region had been painful for six weeks, during which time the condition had grown steadily worse. The drum-membrane was injected, but there was no obstruction of the Eustachian tube. He had never had any otorrhœa. The region around the insertion of the sterno-cleido-mastoid muscle was especially sensitive. Ayres advised a deep incision through the periosteum as the only means of giving relief, but this the patient objected to have done. Eleven days later he appeared with a marked increase of all the inflammatory symptoms, with greater displacement of the auricle forward, and obscure fluctuation over the mastoid. Ayres then made a long, deep incision over the bone, and evacuated a large amount of pus. The bone over the mastoid was denuded of periosteum, and a probe could be passed into the mastoid cells. After the incision the inflammation subsided rapidly, in a few days all suppuration ceased, and the hearing soon became entirely normal. The second case was that of a young girl aged twenty. She had suffered for some weeks from tenderness over the mastoid region, and recently from a constant severe pain. There was an enormous swelling over the mastoid, with distinct fluctuation. There had been no otorrhœa for a number of years. Her hearing was impaired, and the drum-membrane presented a dull appearance. A long incision was made at once down to the bone, which gave prompt and permanent relief. The inflammation subsided rapidly, and the suppuration ceased in a short time.

Two Cases of Cerebral Abscess resulting from Long-continued Otorrhœa; Operation; Recovery.—Pritchard (*Arch. of Otology*, xix, 2 and 3) reports the following cases: The first case was that of a man, aged twenty-three, who had had frontal headache and pain in the left ear from the age of six years, and for the last ten years there had been a purulent discharge from the ear. In April, 1889, the discharge became more profuse and the pain worse, and there were several attacks of partial loss of consciousness lasting fifteen or twenty minutes, during which he could not speak. On June 17th he had a convulsive attack with twitching of the left side of the face, but no paresis or loss of sensation. He remained in a semi-conscious, torpid condition up to June 23d, when he had six convulsions, and was admitted to the hospital. He was drowsy and incoherent. There was an abundant offensive discharge from the ear, tenderness on pressure, and slight facial paralysis. There was no optic neuritis. The skull was trephined the same day at a spot two inches above the meatus and half an inch in front of it. The dura mater was opened, but no pus followed repeated exploratory punctures into the brain substance. The trephine was then applied an inch behind the posterior margin of the first opening, and offensive pus was found outside the dura mater, which was left intact. By further use of the trephine and bone forceps this opening was enlarged, and finally the trephine was applied for the fourth time over the occipito-parietal region. The whole wound was then irrigated with weak carbolic-acid solution and dressed with perchloride gauze. The patient was much collapsed and long unconscious, but his subsequent recovery was uninterrupted and complete.

The second case was that of a young man, aged twenty-six, who had had a purulent discharge from the left ear for eight years, with at times intense pain, and on one occasion there had been a swelling on the left side of the neck. In September, 1889, there was a sudden attack of intense pain in the ear and left side of the head, and on the next day there were two distinct rigors. The next day he vomited, and on the following day he had a convulsion. He was then admitted to the hospital, and for several days there were no characteristic cerebral symptoms. There was intense pain in the left temporal fossa, and he was giddy. The otorrhœa was profuse and offensive, the left drum-membrane was destroyed, and there were several polypi springing from the middle ear. Three days later the temperature rose to 101° F., and there was delirium and vomiting. There was no optic neuritis. The delirium increased and there was twitching of the left eyebrow and left angle of the mouth. There was retention of urine, and he lay in an unconscious condition. The skull was then trephined an inch and a quarter behind the meatus and the same distance above the cerebral base line. Both bone and dura mater appeared healthy, but exploration inward and forward evacuated half an ounce of fœtid pus. The broken-down brain substance was removed, the wound thoroughly irrigated, a drainage-tube inserted, and the wound closed. The relief afforded was transient; the patient soon became delirious again, and had several rigors. Eight days later further exploratory punctures in the brain were made, but no further abscess was found, and no pus was found in the mastoid cells. Two days after this there was slight paresis of the right arm and leg, which disappeared the following day. Four days later there was optic neuritis of the left eye. Two days later the wound was dilated and about two drachms of pus were evacuated. From this date the condition of the patient slowly improved. Word-deafness was noticed, as in the first case. His temperature fell to normal, and he was soon enabled to read, though the optic neuritis remained for six weeks.

Operation for Exostosis of the External Auditory Meatus.—Heiman (*Arch. of Otology*, xix, 2 and 3) reports an interesting case occurring in a man aged twenty-six. When seven years old he had an attack of pain in the left ear, which lasted several days and then disappeared. A similar attack occurred in his fourteenth year, which was accompanied by a slight discharge. In 1881 there was an attack of pain with free flow of pus, which lasted for several months. At this time polypi were found in the tympanic cavity and were removed. During the next few weeks numerous polypi and granulations were removed from the tympanum, but the discharge persisted. In August, 1888, the discharge was not so copious, and there was violent pain in the temporal and occipital regions. There was slight paresis of the left side of the face, with sensitiveness to pressure over the mastoid and temporal regions. The bony external meatus was occluded by a tumor which left only a small chink on one side. The tumor was hard, immovable, and painful. The hearing was greatly diminished. A superficial incision with a bistoury was made through the entire length of the tumor in the direction of the axis of the canal. The tumor was then laid bare and gouged off with a few strokes of the hammer. There was a great deal of hæmorrhage, which obscured the field of operation. The tumor was composed of spongy, bony tissue, covered by an external compact layer. The patient subsequently recovered after a long-continued course of treatment.

Progressive Deafness (Sclerosis) and its Treatment by Tenotomy of the Tensor Tympani.—Cholewa (*Arch. of Otology*, xix, 2 and 3) gives the following indications for operation in this class of cases: 1. Cases of progressive deafness, the so-called "neuropathic sclerosis," should be operated upon when the bone and aerial conduction have not fallen too low. The operation will not be successful unless at least a quarter of the normal duration of perception is still preserved. 2. The operation should be done on the worse ear, where the positive result of Weber's test and the negative result of Rinné's test make us suspect permanent obstruction to conduction in this ear, while there is no trace of this condition in the better ear. 3. If one ear is totally deaf and the other is growing deaf, the operation is advisable on the latter, on the ground that reduction of the tension on one side of the muscular apparatus will benefit that of the other.

Micro-organisms in Acute Middle-ear Suppuration.—Scheibe (*Arch. of Otology*, xix, 2 and 3) here gives the results of his investigations. The secretion used came in every case from paracentesis. Seven varieties of micro-organisms were thus cultivated in thirteen cases of acute inflammation of the middle ear. Examinations in eleven cases of otitis media purulenta where no perforation of the drumhead could be perceived revealed twice the *Streptococcus pyogenes*, twice the *Staphylococcus pyogenes albus*, twice the *Staphylococcus pyogenes tenuis*, once the *Diplococcus pneumoniæ*, once the *Streptococcus pyogenes* with the *Staphylococcus pyogenes albus*, and once with the *Diplococcus pneumoniæ*, and twice rods. The nature of the secretion does not seem to offer any key in regard to the nature of the cocci, and the microscope alone does not suffice to give a clew to the pus cocci contained in the secretions.

Cholesteatoma; Perforation of Shrapnell's Membrane and Occlusion of the Tubes.—Bezold (*Arch. of Otology*, xix, 4) gives the results of his ætiological studies as follows: The simplest explanation of the heterotopia of cholesteatoma appears to lie in an occurrence which may be witnessed daily in an occlusion of middle-ear suppuration. The moment that the sharp distinction between the cutis and the mucous membrane has once been lost by the destruction of the surface at any spot, we see the cutis of the remaining intact region gain the ascendancy over the mucous membrane, and extend with much greater rapidity over the entire region. As long as there is the least trace of a membrana tympani toward the extreme periphery, it seems to offer a safe protecting bulwark against the advances of the cutis over the surface of the tympanum. But when this margin is once gone or bridged over, then the epidermic layer can extend over a large expanse of surface, even as far as the cells of the mastoid process. It is thus proved that the epidermis, at least that of the drumhead and meatus, exhibits a surface growth that has never yet been observed in a similar manner in the epithelium of the mucous membrane.

Leucæmia with Noteworthy Changes of the Nasal Mucous Membrane.—Suchannek (*Arch. of Otology*, xix, 4) here reports an interesting case, the most important changes being as follows: The leucæmic membrane had a moist, glistening appearance, and was mainly a light yellowish-brown in color, though the upper portion, including the olfactory fissure, the superior turbinated, the part below the ethmoidal plate, and the corresponding portions of the septum, were of a dark-brown color. The mucous membrane was also decidedly thickened. After hardening in Müller's fluid, sections showed clearly that lymphomatous nodules were present on the turbinated bodies, septum, and nasal roof. Although the epithelium was normal, the mucous membrane itself was decidedly changed. Only remnants of tubules were found, filled with degenerated cells. The subepithelial layer was enlarged and replaced by a lymphoid tissue. In the center of circumscribed miliary lymphomata there was found a tubule, a nerve filament, or a blood-vessel. The grouping of the lymphatic tissue around remnants of glands, nerves, and blood-vessels corresponded exactly to the conditions found in the mucous membrane of the respiratory organs by Virchow, and to the leucæmic formations in the kidney. The blood-vessels contained many white blood-corpuscles, and the walls of the arterioles were found infiltrated. The normal adenoid zone of the respiratory tract was greatly thickened, and the tubular glands of this tract were degenerated. Considerable pigment was found on the mucous membrane. The "swell-bodies" of the middle turbinated did not vary from the normal. There were no hæmorrhages found in the parts examined. The olfactory epithelium was perfectly normal, while the glandular apparatus was totally destroyed.

The Affections of the Ear in Tabes Dorsalis.—Treitel (*Arch. of Otology*, xix, 4), in a brief report of six cases, draws the general conclusion that sclerosis of the posterior columns of the cord not rarely causes trophic changes in the middle ear, which may lead to disturbances of hearing. In two of the cases he considered the deafness to be due to an affection of the nerve, since the hearing distance for speech, the bone-conduction for the tones of the fork and watch, and the perception of acute tones were markedly lessened.

The Part taken by Micro-organisms in Otitis Media Diphtheritica.—Siebenmann (*Arch. of Otology*, xix, 4) reports the microscopical examination of an ear in a case of diphtheria occurring in a child aged seven years. On opening the tympanic cavity from above, the lumen of the tympanum, antrum, and aditus ad antrum were found partly empty, the walls everywhere covered with pus and devoid of mucous membrane. The hammer and body of the anvil were also bare, but the articulations were intact. The mastoid cells were well developed and were in the same condition as the tympanic cavity and antrum. Their lumen was filled with pus, and when this was washed away the walls were bare and pierced in places by fine spicula of bone. A specimen of the fibrous mass which filled the tympanic cavity, when examined in the fresh state, was found to consist mainly of pus cells, held together by a network of fibrin. The whole specimen was studded with micrococci. The fresh, moist diphtheritic membrane was hardened in alcohol, and, when examined, showed a distinct alveolar structure on section. Distributed irregularly over the cut surface were numerous red-tinged leucocytes, generally with single nuclei, and nearly of one size and shape. No micro-organisms were found. Siebenmann agrees with Heubner that the presence of streptococci in the diphtheritic parts is to be explained as the result of a secondary entrance from without, and therefore that their development must be considered a secondary process, which has nothing to do with the ætiology of the diphtheritic inflammation, but which denotes the beginning of the septic infection. In Siebenmann's case a diphtheritic membrane had plainly formed in a cavity that was closed on all sides, and after the narrow and only outlet had been completely occluded by the inflammation, and where, therefore, a secondary invasion by bacteria was hardly possible.

Mobilization of the Stapes.—Miot (*Rev. de laryngol. et d'otologie*, Nos. 2, 3, 4, 5, and 6, 1890) draws the following conclusions from his investigations: 1. Direct mobilization of the stapes is the most efficacious means of combating the deafness due to ankylosis of the stapes. 2. It should not be done until all the ordinary methods of treatment have been tried and found wanting. 3. It can be affirmed that in many cases the operation produces a lasting result upon the hearing and on tinnitus, though sometimes the result is doubtful. In a certain number of cases the operation has to be repeated several times before a favorable result is obtained. 4. When the deafness depends on pathological conditions in the chain of ossicula and in the drum, a permanent perforation must be maintained in the drumhead. 5. The rupture of the chain of ossicula must be done in every case in which resistance is made to mobilization of the stapes. 6. The operation sometimes reacts favorably upon the other ear. 7. The operation is not at all dangerous to the life of the patient, and never leads to suppuration, if ordinary antiseptic precautions are employed. Miot reports having performed the operation on 126 ears, with a favorable result in 74 ears.

The Results of the Examination by the Tuning-fork, especially in Cases of Disease of the Mastoid.—Corradi (*Rev. de laryngol. et d'otologie*, Nos. 10 and 11, 1890) draws the following conclusions from his investigations: 1. In all bilateral affections of the mastoid, provided there is not too great a difference in the acuity of hearing of the two ears, the negative result of Rinné's test shows the existence of a lesion in the mechanism of transmission. 2. In chronic diseases with a negative result following the examination by the otoscope and the air douche, if the conditions of hearing acuity are sufficiently good, the result of Rinné's test is often positive. 3. In acute and subacute affections of the middle ear with exudation in the drum cavity, the result of Rinné's test is sometimes positive. 4. In the acute, subacute, and chronic affections of the mastoid, unilateral or bilateral, whether the deafness is considerable or slight, the result of Rinné's test is sometimes positive. 5. If the Rinné test is positive and of normal or only slightly shortened length in cases of marked deafness, where the otoscope and the air douche give a negative result, we may conclude that the mechanism of transmission does not participate in the disease, provided that Weber's test also does not give a positive result in the deaf ear, or give the same result in the two ears. 6. If Weber's test is not the same in both ears, or if it gives a positive result in the deaf ear, then much more value should be attributed to this test than to that of Rinné. When Weber's test gives a positive result on the affected side or in the deafer ear, and when Rinné's test is of normal length or only a little shortened, in cases of more or less serious deafness, the result of the air douche being at the same time more or less negative, we must admit that the disease is situated in the middle ear, probably in the mastoid portion.

Otitis Media due to la Grippe.—Ménière (*Rev. de laryngol. et d'otologie*, No. 16, 1890) describes as follows the lesion of the ear induced by *la grippe:* Rapid invasion of the tympanum, with marked local symptoms from the beginning; considerable discharge of pus; frequently periostitis of the external auditory canal; neuralgia of the neighboring parts, at times very marked. In the majority of cases the convalescence is fairly rapid, and the cases heal without grave lesions, with integrity of the tympanum and preservation of the hearing.

The Pseudo-color Sensations associated with Objective Sensations of Sound.—Mendoza (*Rev. de laryngol. et d'otologie*, No. 17, 1890) begins by defining the term *secondary false* sensation as the false but physiological mental sensation of colors, sounds, odors, tastes, etc., which are not real; a sensation arising from a previous objective sensorial perception in another sense, or in the same sense. The secondary false or pseudo-sensations have been observed in the domain of each of the five general senses, but especially in that of sight. These combined phenomena he designates under the name of *physiological pseudæsthesia*, with five subdivisions. One of these subdivisions, *pseudophotæsthesia*, is that singular faculty of association of sensorial perceptions by which any previous objective or ideal perception, or even a purely psychical operation, excites, in certain persons, a false visual sensation, colored or uncolored, constant for the same person and the same source of irritation. In the *pseudophotæsthesia of acoustic origin*, or *colored hearing*, the irritation passes through the ear. Every noise, every sound, may originate the phenomenon, but usually it is a loud voice; and here it is the vowels which determine the sensation of color, as the consonants have only a very secondary effect. *Colored hearing* is a faculty of association of sounds and colors by which every objective or ideal acoustic perception of a given intensity may cause, in certain individuals, a luminous image, colored or uncolored, constant for the same letter, the same timbre of the voice or instrument, the same intensity, and the same pitch of the sound. This is a physiological faculty which is developed in infancy, and generally persists without notable variations. Various theories have been proposed to explain these phenomena, none of which are entirely satisfactory. Mendoza prefers to assume that these phenomena depend sometimes on a conscious or unconscious association of ideas, dating from an early period of life; and in this class he places the fact of the color attributed to the days of the week, or to periods of history; sometimes on a special psychical labor, the internal nature of which escapes us, and which has a certain analogy with the illusion in certain cases of pseudophotæsthesia of optic origin, and with the hallucination in other forms of pseudophotæsthesia, where the secondary pseudo-sensation is excited by the normal irritation of some other special sense than that of sight.

Labyrinthine Deafness Consecutive to la Grippe.—Lannois (*Rev. de laryngol. et d'otologie*, No. 17, 1890) refers to that class of cases in which the "grippe" seems to have attacked the middle ear, but to a relatively slight degree, while causing grave trouble in the labyrinth. He reports two cases in which the symptoms pointed to the rapid occurrence of labyrinthine lesions—viz., sudden and complete deafness, intense subjective noises, and almost continuous vertigo. In both cases there were also lesions in the Eustachian tubes and middle ears. He thinks that the "grippe" is an infecti us malady, and attacks the labyrinth like typhoid fever, scarlatina, and mumps. Whether the labyrinthine lesion is a hæmorrhage or a serous infiltration is a matter of pure speculation.

The Electric Illumination of the Antrum of Highmore in Empyema.—Heryng (*Ann. des mal. de l'oreille et du larynx*, January, 1890) asserts that hitherto the diagnosis of empyema of the maxillary sinus has been based on protrusion of the maxillary wall, increase of the discharge when the head is inclined to the opposite side, suborbital pain, and swelling of the cheek. In addition to these, Ziem has called attention to two additional symptoms, the unilaterality of the disease and the intermittence of suppuration. The exploratory aspiration of the maxillary sinus constitutes a still further aid in the diagnosis of empyema, but is somewhat difficult of application. In order to illuminate the bones of the face by the medium of transparency, Voltolini has advised putting an electric lamp within the mouth of the patient, and has alleged advantages from this aid to diagnosis even in the case of tumors. Heryng thinks that Voltolini has not called sufficient attention to the dark spot or shadow formed by the diseased part in this transparency-illumination, and that he has confounded the symptoms of empyema with those of cyst, which are very different. In empyema, the diseased side appears red as far as the orbit, and the lower lid looks like a bright-red crescent as far as the internal angle of the eye. This symptom is the most certain one of the presence of empyema. For illuminating purposes Heryng uses Reiniger's electric spatula with an Edison lamp of five volts. When the tongue is depressed and the mouth is closed, the current is turned on. If it is a cyst with serous contents, the light passes easily through. If it is a solid tumor or empyema, the diseased side is unilluminated. In cases of double empyema, of course both sides of the face remain dark.

Abscess of the Brain following Purulent Otitis Media.—Picqué (*Ann. des mal. de l'oreille et du larynx*, July, 1890) reports a case of this nature occurring in a man, aged forty-six, who had had the influenza in December, 1889, followed by acute suppuration in the right ear and an abundant discharge of pus. The pain in the ear, which had ceased on the appearance of the purulent discharge, returned on April 16, 1890, and became very violent. The mastoid was opened on April 18th, but no pus was found. Picqué then determined to open the skull over the fissure of Rolando, as the patient had become hemiplegic on the left side. After making a large opening with the trephine the dura mater was incised, and a considerable hernia of the brain at once took place. An exploratory puncture in the brain was at once made, on a level with the middle portion of the ascending frontal convolution, and a large quantity of pus evacuated. All the symptoms improved on the same day, but the patient died comatose a week later. The autopsy revealed a general encephalitis.

Lesions of the Ear during the Epidemic of la Grippe in 1889–'90.—Glover (*Ann. des. mal. de l'oreille et du larynx*, February, 1890) in this paper refers to those cases in which the "grippe" presented a predominance of catarrhal phenomena in the domain of the mucous membrane lining the nose, pharynx, and larynx. The naso-pharyngeal symptoms lasted in all the cases observed for from three to five days before the aural symptoms developed. There were first a violent coryza, dysphagia, dysphonia and cough, and occasionally aphonia; then followed fever, great lassitude, headache, and loss of appetite. Most of the patients had had previous trouble of one sort or another in the naso-pharyngeal space. The otitis began mildly but progressed rapidly. The first symptom was usually pain, then impairment of hearing, accompanied by slight redness of the tympanic membrane and handle of the hammer, followed by opacity of the drumhead, fluid in the drum, perforation of the membrane, and abundant otorrhœa, usually within ten days.

Two Cases of Epithelioma of the Auricle.—Fougueray (*Ann. des mal. de l'oreille et du larynx*, April, 1890) reports two cases, the first of which occurred in a man aged sixty. There had appeared a small, painful nodule on the helix of the left ear some time before. Irritated by the scratching of the patient, it increased in size, and when Fougueray saw him the growth had involved the helix, anthelix, and concha. The whole surface of the tumor was ulcerated and very painful, and the neighboring glands were involved. The treatment consisted in the employment of caustic arrows, after the manner of Maisonneuve, which were thrust through the auricle just beyond the limits of the growth. The latter sloughed off in fifteen days, leaving a wound which at first seemed inclined to heal, but three months later the growth returned in the scar. A second operation of a similar nature proved futile in arresting the growth, and the patient died a few months later. The second case occurred in a man aged seventy-two, who when Fougueray first saw him presented an enormous ulceration involving one third of the auricle, which was excessively painful and discharged a large quantity of sanious pus. The glands were not involved. The entire auricle, with the exception of the lobule, was removed by the thermo-cautery. The healing was rapid, and there has been no return of the growth since November, 1889.

Subdural Abscess following Purulent Otitis Media; Trephining; Cure.—Picqué (*Ann. des mal. de l'oreille et du larynx*, July, 1890) reports an interesting case occurring in a young man, aged twenty-four, who had a purulent otitis media for a month. There was mastoid cellulitis, and at the base of the mastoid there was a fistulous tract which gave exit to a large quantity of pus. There was intense pain over the corresponding side of the head. An operation was performed on the mastoid, and revealed the fact that the fistulous passage traversed the entire bone upward and inward. The skull was then trephined, and a large amount of pus found under the dura mater. This was evacuated, the cavity thoroughly cleansed, and the wound dressed antiseptically. The patient grew rapidly better, and the wound soon healed.

A Comparison of the Results of the Hearing and of the Auscultation of the Vertex Tuning-fork during Deglutition and the Different Other Methods of mobilizing the Apparatus of Hearing.—Gellé (*Ann. des mal. de l'oreille et du larynx*, September, 1890) gives rather an involved account of the experience furnished by the test of the so-called "tuning-fork" tube. It consists in registering the variations of the sonorous sensation caused by a tuning-fork suspended at the free end of a rubber tube, the other end of which is inserted in the external auditory meatus. These variations are easily obtained by pressure on the tube, by the contraction of the jaws or the cutaneous muscles of the face, either by deglutition, or the Valsalvian method, etc. In general, when the tests for centripetal pressure are positive or normal—that is, when there are signs of the mobility of the stapes—the test of deglutition is equally positive for the patient. The two results are developed in a parallel manner, and their constant agreement is very significant. This test by deglutition has an important value in reference to diagnosis of immobility of the stapes, when we are convinced of the aeration of the tympanic cavity. It is not sufficient for a diagnosis in itself, however.

Neuritis of the Acoustic Nerve due to Meningitis.—Gradenigo (*Ann. des mal. de l'oreille et du larynx*, September, 1890) has convinced himself that extensive bilateral purulent infiltrations of the acoustic nerve and facial nerve in the internal auditory canal, which may cause destruction of the nervous fasciculi of the cochlear nerve, are almost constant symptoms in cerebro-spinal meningitis, and also in tuberculous meningitis and in the so-called "otitic" meningitis. The bacteriological examination of microscopic sections shows in the pus which surrounds these nerves in the auditory canal the existence of the same organisms which cause oftentimes the meningitis—viz., the diplostreptococcus lanceolatus in cerebro-spinal meningitis, and the bacilli of Koch in tuberculous meningitis. He has also observed the same micro-organisms in the mucous membrane of the vestibular wall of the tympanum, and also in the vicinity of the Falloppian canal, and he is inclined to regard this canal as the channel of transmission of the virus from the internal auditory canal to the middle ear.

A Morphological Study of the Anthelix.—Gradenigo (*Ann. des mal. de l'oreille et du larynx*, September, 1890) here describes some little bands of tissue in the auricle which are grouped together in two principal systems: those which follow a longitudinal direction, running from the summit to the base of the auricle, perpendicular to the line of implantation of the auricle itself (longitudinal bands); and those which have a direction parallel to the base and follow a concentric course. In the human ear he has recognized the existence of two elevated small bands, as follows: 1. A little band very rarely found complete; it forms the prolongation downward and forward of the inferior crus of the anthelix, so that, although curved like a letter S, follows a course almost parallel to the anthelix, and stops at the floor of the cymba conchæ just above the crus of the helix. 2. A band concentric to the body of the anthelix, which is also very rare.

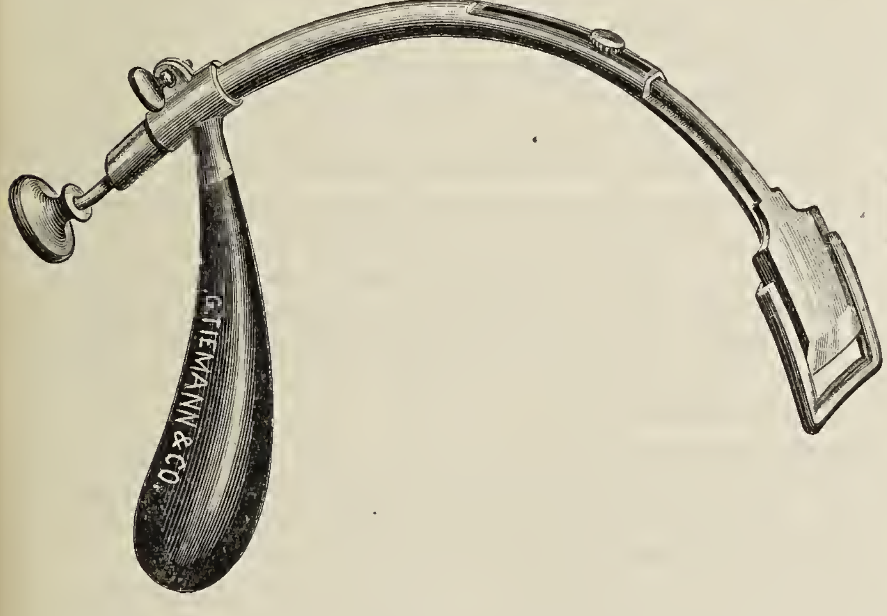
New Inventions, etc.

Presentation of Instruments

AT THE TWELFTH MEETING OF THE AMERICAN LARYNGOLOGICAL ASSOCIATION.

A "Lingual" Amygdalotome, or an Instrument for removing Glandular Hypertrophy at the Base of the Tongue, was presented by Dr. John O. Roe.

The accompanying illustration represents the instrument. It is constructed on the principle of Physick's amygdalotome. The shank of the instrument, as shown in the cut, is curved so as to pass over the dorsum of the tongue, and the fenestra in the cutting portion of the instrument is made sufficiently wide to grasp the mass of tissue which is usually more or less spread out across the base of the tongue just above the epiglottis.



The handle is attached to the shaft of the instrument by a clamp which permits it to be adjusted to any position by being moved forward or backward, or turned to either side. The instrument is more conveniently used with the handle turned to one side, and it may be used with equal facility by either hand.

The methods commonly adopted for the removal of glandular hypertrophy at the base of the tongue are the galvanic cautery and the snare. But these methods are far inferior to removal by a cutting operation, similar to that which is employed in the removal of hypertrophied faucial tonsils. The faucial tonsil and this so-called "lingual" tonsil are composed of tissues of similar structure. Therefore the method which has already been found best suited for the removal of one may be regarded as best adapted to the removal of the other. It is only in cases where there are also enlarged vessels to be destroyed that the galvanic cautery is superior to any other method.

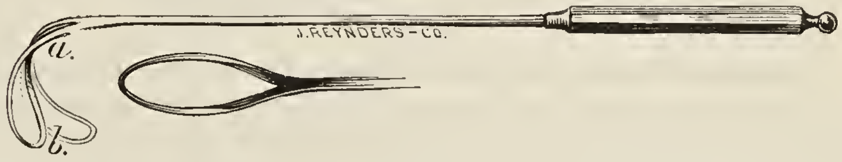
This instrument will be found superior to the snare for the reason that the tissue can be much more readily engaged in the fenestra than in the loop of the snare; and this is especially true if the instrument is pressed down firmly over the tissue, so as to make the glandular mass protrude through the opening as far as possible before the blade is forced down.

The instrument, which has been made for me by Tiemann & Co., of New York, is constructed so as to work as easily and freely as a faucial amygdalotome, and the blade is very readily taken out for cleaning and sharpening by simply removing the screw that fastens the blade to the stem.

In using this instrument, the tongue should be drawn forward and held by the patient (by the right hand if the operator uses the instrument with his right hand, and *vice versa*), and the laryngoscopic mirror should be employed, for the reason that without due care the upper portion of the epiglottis might be engaged in the fenestra and removed instead of the hypertrophied tissue of the base of the tongue, and for this reason it is not a safe instrument to be used by an inexperienced operator.

Dr. D. Bryson Delavan, of New York, presented instruments of different shapes for curetting the pharynx. One was loop-shaped, not flexible, the other a sharp spoon; each being used to enucleate growths prior to removal with forceps.

Dr. Edgar Holden, of Newark, presented a flexible curette, shaped at the tip like the finger-nail, which by its elasticity adapts itself to the pharyngeal vault and can be rapidly used, even on a rebellious child, without the aid of an anæsthetic. This has been in his experience applicable to the majority of cases, especially of the fimbriated and cushion-like varieties.



AN IMPORTANT ATTACHMENT TO THE OTIS DILATING URETHROTOME.

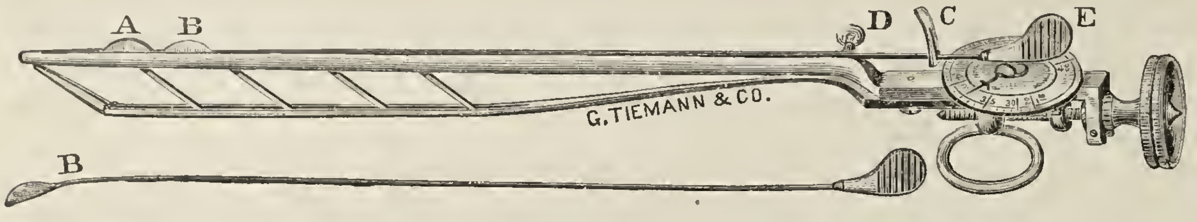
By George Wackerhagen, M. D.,

BROOKLYN.

The dilating urethrotome of Professor Otis is so familiar to all operating surgeons that it is unnecessary to describe it here, or to add any further testimony as to the magnificent results that have been achieved by the use of this, the most perfect of instruments. It has been a problem in my mind for more than a year whether it would not be possible to add to this instrument some contrivance whereby strictures might be located by the same instrument that is used in effecting their division, and at the same time retain all the advantages of the original instrument. It is first necessary to establish the normal caliber of the urethra by the urethrometer in a case presented for operation.

What I consider an additional convenience in the use of this instrument consists of the attachment of a stricture locator marked A. We have, first, the original groove on the upper surface of the superior shaft, ending in a slot at the lower end. Into this groove another grooved shaft is inserted, and at the extreme end of this is attached the above-mentioned locator marked A. A steel wire, ending in the blade B, is introduced into this grooved shaft, and it is so arranged that the locator serves as a guard to the blade B, and both the locator and the knife are concealed in the deep slot at the end of the upper bar.

This instrument is introduced closed, and the dilatation accomplished to the required degree. The handle C is now drawn forward, which brings the locator against the stricture; it is then fastened in place by button D, and the blade B drawn out by handle E, which divides the stricture. The blade is then pushed back into its guard (the stricture locator A), the button D is now turned, releasing the locator A, which is then brought forward against the next stricture, if another exists. Having once introduced the instrument and attained the proper dilatation, it is not necessary to remove it or change the dilatation until the operation is completed.



I think it is well to have the superior shaft marked in half-inches, in order that one may know how far the instrument has passed into the urethra. The concealment of the stricture-locator was suggested by me to the manufacturer about the middle of October, 1890. It was at that time thought that it would be impossible to make it work satisfactorily, but, after experimentation, Mr. Stohlmann found that it could be successfully accomplished. On the 9th of January, 1891, after the cuts had been made and the description was ready for publication, I was informed that Dr. C. F. Fluhrer had also invented a like attachment to his own instrument. In view of the above-given facts, it seems to me that the coincidence is most extraordinary. This instrument is manufactured by Messrs. George Tiemann & Co., New York.

Miscellany.

Mortality in Cities in the United States.—The following table represents the mortality in the cities named, as reported to Dr. John B. Hamilton, Surgeon-General of the Marine-Hospital Service, and published in the Abstract of Sanitary Reports for January 16th:

CITIES.	Week ending—	Estimated population.	Total deaths from all causes.	DEATHS FROM—										
				Phthisis pulmonalis.	Yellow fever.	Small-pox.	Varioloid.	Varicella.	Typhus fever.	Enteric fever.	Scarlet fever.	Diphtheria.	Measles.	Whooping-cough.
New York, N. Y.	Jan. 10.	1,657,498	744	....	..	..	..	..	..	3	16	14	15	8
Chicago, Ill	Jan. 10.	1,200,000	....	....	..	..	..	..	..	12	16	14	5	6
Philadelphia, Pa	Jan. 3.	1,064,277	424	63	..	..	..	..	..	5	4	13	..	5
Boston, Mass	Jan. 10.	448,477	212	....	..	..	..	..	..	2	1	3	1	....
Cincinnati, Ohio	Jan. 9.	325,000	115	20	..	..	..	..	..	2	2	5	..	....
Cleveland, Ohio	Nov. 29.	262,000	55	2	..	..	..	..	..	1	..	2	1	....
Cleveland, Ohio	Dec. 6.	262,000	86	10	..	..	..	..	..	3	1	3	..	....
Detroit, Mich	Jan. 3.	250,000	73	....	..	..	..	..	..	..	1	11	..	....
Washington, D. C.	Jan. 3.	250,000	111	....	..	..	..	..	..	1	..	6	1	2
Newark, N. J	Jan. 10.	193,644	94	7	..	..	..	..	..	1	1	5	..	....
Rochester, N. Y.	Jan. 10.	138,000	46	....	..	..	..	..	..	..	..	2	..	....
Providence, R. I.	Jan. 10.	132,043	49	....	..	..	..	..	..	2	..	..	..	1
Richmond, Va	Jan. 3.	100,000	39	5	..	..	..	..	..	..	..	..	..	....
Toledo, Ohio	Jan. 9.	82,652	27	....	..	..	..	..	..	..	..	2	..	....
Nashville, Tenn	Jan. 10.	76,309	25	....	..	..	..	..	..	..	..	..	..	....
Fall River, Mass	Jan. 10.	75,000	29	....	..	..	..	..	..	..	1	3	..	....
Charleston, S. C.	Jan. 10.	60,145	33	9	..	..	..	..	..	1	..	..	..	....
Galveston, Texas	Dec. 12.	40,000	12	...	..	..	..	..	..	..	..	1	..	....
Galveston, Texas	Dec. 19.	40,000	16	1	..	..	..	..	..	..	2	1	..	....
Portland, Me	Jan. 10.	40,000	13	....	..	..	..	..	..	1	..	1	..	....
Binghamton, N. Y.	Jan. 10.	35,000	13	....	..	..	..	..	..	..	..	..	..	1
Auburn, N. Y	Jan. 10.	25,887	9	....	..	..	..	..	..	..	..	..	..	....
Newton, Mass	Jan. 3.	24,375	3	....	..	..	..	..	..	..	..	..	..	....
Pensacola, Fla	Jan. 3.	15,000	2	....	..	..	..	..	..	..	..	..	..	....

Coca in the Treatment of Influenza.—The *Medical Press and Circular*, of London, cites Dr. Laffont, of the Lille School of Medicine, as having produced excellent results in the treatment of influenza with the Mariani preparations of coca, especially the wine and the elixir. In general he advises: 1. Gentle purgatives. 2. Diaphoretics and revulsives. 3. Strong tonics.

The Atmospheric Tractor.—In the *Medical and Surgical Reporter* for November 29th and December 6th, Dr. Peter McCahey, of Philadelphia, explains the management and describes the efficiency of a rubber cup that he has devised as an aid in the extraction of the fœtus, acting on the principle of Sir J. Y. Simpson's air-tractor, but much simpler in construction. Dr. McCahey has sent us one of his tractors, and we are convinced that, as he says, it will prove harmless in the hands even of an ignorant person.

A Simple Cure for Nocturnal Enuresis.—"According to Dr. Van Trenton, of La Hague, in a paper before the International Congress, nocturnal enuresis of children is due to the insufficiency of the sphincter vesicæ, which allows the urine to flow into the upper portion of the urethra, from which it is then expelled by the reflex action of the detrusor urinæ. It can not be due to distention of the bladder, because children wet the bed two hours after retiring. His treatment consists in preventing the urine from running into the urethra by raising the foot of the bed. He has made fourteen cures in this way, taking the additional precaution of having the patients empty the bladder just before retiring, and of giving them no liquid at this time."—*Druggists' Circular and Chemical Gazette.*

To Contributors and Correspondents.—*The attention of all who purpose favoring us with communications is respectfully called to the following:*

Authors of articles intended for publication under the head of "original contributions" are respectfully informed that, in accepting such articles, we always do so with the understanding that the following conditions are to be observed: (1) when a manuscript is sent to this journal, a similar manuscript or any abstract thereof must not be or have been sent to any other periodical, unless we are specially notified of the fact at the time the article is sent to us; (2) accepted articles are subject to the customary rules of editorial revision, and will be published as promptly as our other engagements will admit of—we can not engage to publish an article in any specified issue; (3) any conditions which an author wishes complied with must be distinctly stated in a communication accompanying the manuscript, and no new conditions can be considered after the manuscript has been put into the type-setters' hands. We are often constrained to decline articles which, although they may be creditable to their authors, are not suitable for publication in this journal, either because they are too long, or are loaded with tabular matter or prolix histories of cases, or deal with subjects of little interest to the medical profession at large. We can not enter into any correspondence concerning our reasons for declining an article.

All letters, whether intended for publication or not, must contain the writer's name and address, not necessarily for publication. No attention will be paid to anonymous communications. Hereafter, correspondents asking for information that we are capable of giving, and that can properly be given in this journal, will be answered by number, a private communication being previously sent to each correspondent informing him under what number the answer to his note is to be looked for. All communications not intended for publication under the author's name are treated as strictly confidential. We can not give advice to laymen as to particular cases or recommend individual practitioners.

Secretaries of medical societies will confer a favor by keeping us informed of the dates of their societies' regular meetings. Brief notifications of matters that are expected to come up at particular meetings will be inserted when they are received in time.

Newspapers and other publications containing matter which the person sending them desires to bring to our notice should be marked. Members of the profession who send us information of matters of interest to our readers will be considered as doing them and us a favor, and, if the space at our command admits of it, we shall take pleasure in inserting the substance of such communications.

All communications intended for the editor should be addressed to him in care of the publishers.

All communications relating to the business of the journal should be addressed to the publishers.

THE NEW YORK MEDICAL JOURNAL, JANUARY 31, 1891.

Original Communications.

THE ACTION OF THE GLOTTIS IN SINGING.*

By THOMAS R. FRENCH, M. D.,

CLINICAL PROFESSOR OF DISEASES OF THE THROAT AND NOSE
IN THE LONG ISLAND COLLEGE HOSPITAL, BROOKLYN.

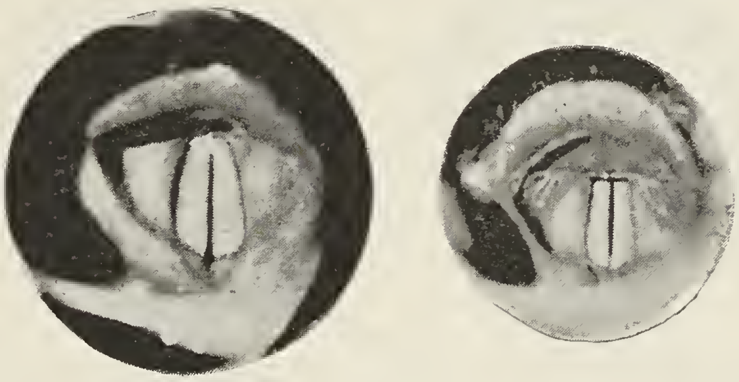
THE diversity of opinion regarding the action of the glottis in singing which still exists among authorities on voice-production makes it imperative that some other means than that of the unaided eye in making direct observation must be employed if a satisfactory solution of this problem is to be reached. The photographic studies of the glottis in singing which I have made during the past four years have convinced me that through this, more than any other method, can we hope to reach a clear understanding of the mechanism of the vocal bands during the formation of the registers and in the changes in the pitch of the voice.

The movements of the glottis are often so rapid that the eye can not appreciate them, or are so numerous that the mind will not retain them in the order of their occurrence. It is estimated that the human eye can open and shut in the one tenth part of a second, but an impression formed upon the retina in that time lacks detail, while an image of the interior of the larynx, in all its detail, may be fully and clearly impressed upon the sensitive plate in the one hundredth part of a second. Those movements which the eye fails to appreciate may easily be defined by taking a series of photographs at different stages, which, being viewed consecutively, clearly show such movements in their entirety.

If the changes which occur in all larynges in singing were in all respects uniform, a clear exposition of their nature could readily be made; but, as such is not the case, the movements of the larynx in a large number of individuals must be studied by themselves and deductions made which will, perhaps, make clear the laws which govern such changes. Through instantaneous photography the actions of the bodies of men, animals, and birds, which were before known only in a general way, have been made quite clear in their detail; so also may the movements of the rapidly acting larynx, in the act of singing, be clearly defined. The practical application of photography to the study of the glottis in the act of singing is destined, I believe, to reveal the nature of most of the hidden movements of the parts in the production of tones. Photography will then supplant the unaided eye in the study of movements and changes which occur much too rapidly for accurate record upon the retina.

I have not yet permitted myself to formulate a theory of the action of the larynx in singing, for even now, after a large number of studies have been made, the camera is constantly revealing new surprises in the action of the vocal bands in every part of the scale. The movements of the larynx in a much larger number of subjects must be revealed, grouped, and recorded before definite conclusions can be drawn. It was with the belief that the camera would prove to be the key to the solution of a part, at least, of the problem, that I undertook the study, a portion of which has been made the subject of this paper.

There is but one class of subjects in which the study of the laryngeal image in singing can be satisfactorily made—namely, that in which the anterior insertions of the vocal bands are well shown during the emission of all the tones of the voice. If the ventricular bands make angular junctions with the anterior wall of the larynx, the anterior insertions of the vocal bands can not be seen. The extreme anterior limits of the vocal bands can only be seen when the outline of the tissues connecting the ventricular bands in front is semicircular in shape. This pair of photographs will enable me to make my meaning clear:*



PAIR 1.

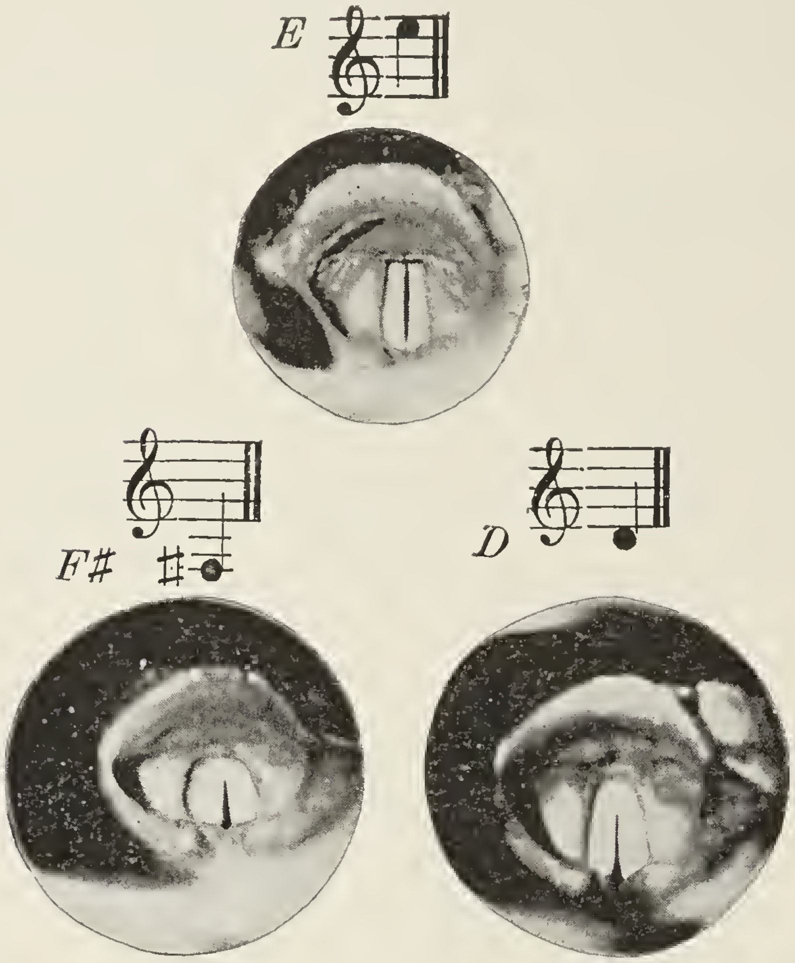
In the first photograph the anterior boundary is rounded, and permits a view of the insertions of the vocal bands into the thyreoid cartilage. In most larynges the condition shown in the second photograph is present during the production of all the notes in the compass of the voice. In this larynx the extreme ends of the vocal bands are concealed from view by the lower boundary of the anterior wall of the larynx. A portion of the bands is thus covered, to a small extent, of course, but enough to prevent accurate measurements being taken. In a large number of larynges the anterior wall projects backward. Its change in position reduces or enlarges the cavity of the larynx, and so, no doubt, affects the quality as well as the pitch of the voice. In this class of larynges it is impossible to determine whether the vocal bands are lengthened or shortened in the transition from one register to another, or in the variations in the pitch of the voice.

Occasionally the anterior insertions will show in only a portion of the scale. Such was the case in the subject of whose larynx the second of the first pair was taken, as will be seen in this group of three photographs:

---

* Read before the Laryngological Section of the Tenth International Medical Congress, Berlin, August 6, 1890.

* The illustrations used in this article are direct reproductions, by the "half-tone" photo-engraving process, of the photographs displayed upon the screen when this paper was read in Berlin. This method of reproduction, so far as laryngeal photographs are concerned, is in the nature of an experiment, and may not prove to be entirely satisfactory. A slight variation in the pressure of the plates upon the sheet may materially affect some of the lines about the glottis and so misrepresent the actual position of the parts. If the photo-engravings, especially those of larynges representing the higher tones, do not accord with the written description of them, it must be assumed that the fault is with the reproductions and not with the photographs.

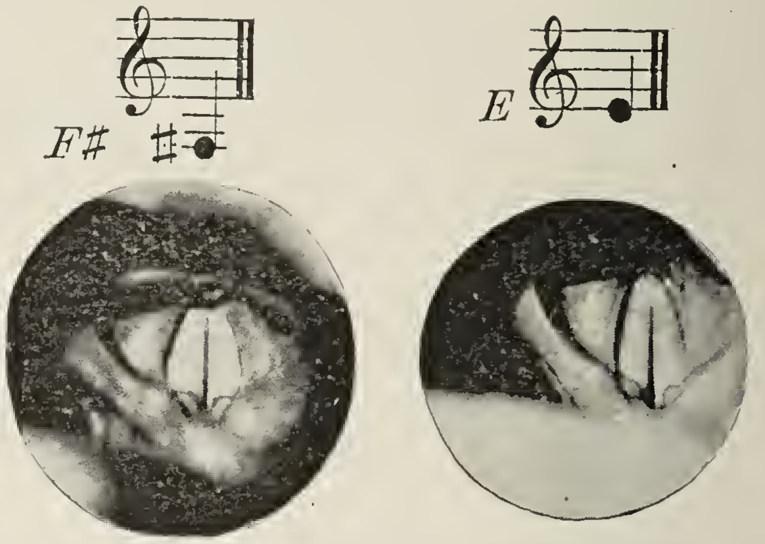


The group represents the larynx of this subject while singing the lowest, the highest, and a middle note of her voice. You may observe that in the lower and middle notes only are the anterior insertions exposed. In all the notes above they are covered by the lower boundary of the anterior wall of the larynx in the manner represented in the upper note.

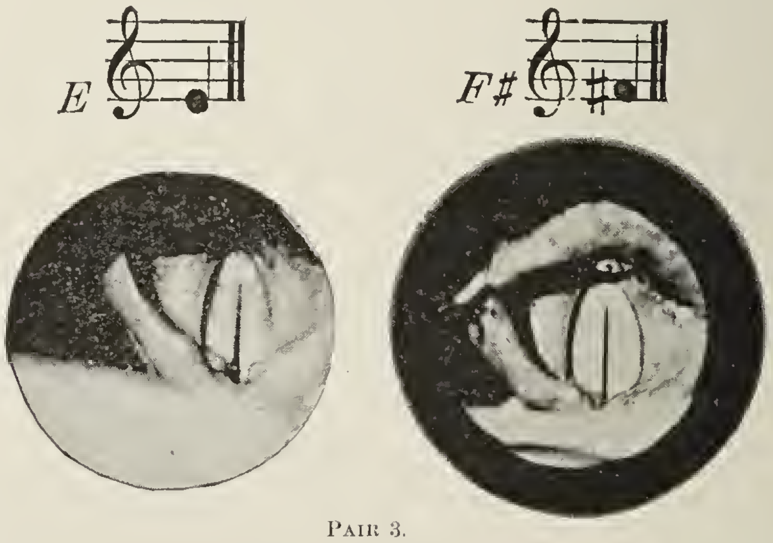
The fact that there are relatively but few subjects in whose larynges the anterior insertions can be seen throughout the range adds greatly to the difficulties of this investigation. In order to find one satisfactory subject, a large number have to be examined, which necessarily takes much time and renders the progress of the study very slow.

In the short time allotted to me it will be impossible to do more than exhibit series of photographs taken of the larynges of four female subjects, which will show how the changes may be made in the action of the glottis from one register to another and in the variations in the pitch of the voice. These series were taken consecutively, and will, therefore, fairly represent the marked variations in the movements of the various structures which occur in different larynges.

The second pair of photographs is the first of a series which I will show of the larynx of a well-known professional contralto singer. The voice is of excellent quality. The first of the pair was taken while F sharp, treble clef, third line below staff was being sung, and the second while she was singing E above.* These are one of the lowest and the highest notes of her lower register. In the photograph representing the lowest note it can be seen that the vocal bands are quite short and wide, and that, with the exception of the anterior fourth, the ligamentous and a part of the cartilaginous glottis is open and the slit between the vocal bands is linear in shape. As the voice ascends the scale the vocal bands increase in length and decrease in width, until at the highest note of the register they can be seen to have become considerably longer. It can also be observed that the ligamentous portion of the glottis is still open to the same relative extent, and that the cartilaginous portion has opened to its full extent. In the photograph representing the lower note the anterior faces of the arytænoid cartilages can be seen. As the voice ascended, the capitula Santorini were tilted forward. This seems to be proved by the change in the position of these structures as seen in the photograph representing the upper note, as well as a similar change to be seen in nearly all the series showing the registers which I have taken. The epiglottis, though not well illuminated, seems to have risen as the voice ascended the scale.* The vocal bands have increased in length at least an eighth of an inch in seven notes. The compass of the voice of this subject is about two octaves and a half. Therefore at that rate of lengthening the vocal bands would increase nearly half an inch if their length was progressively increased while singing up the scale from the lowest to the highest note. This progressive increase



Pair 2.



Pair 3.

---

* All notes in this and the following series were sung in the key of A.

* The light upon the epiglottis is so weak that the structure does not appear at all in the photo-engraving.

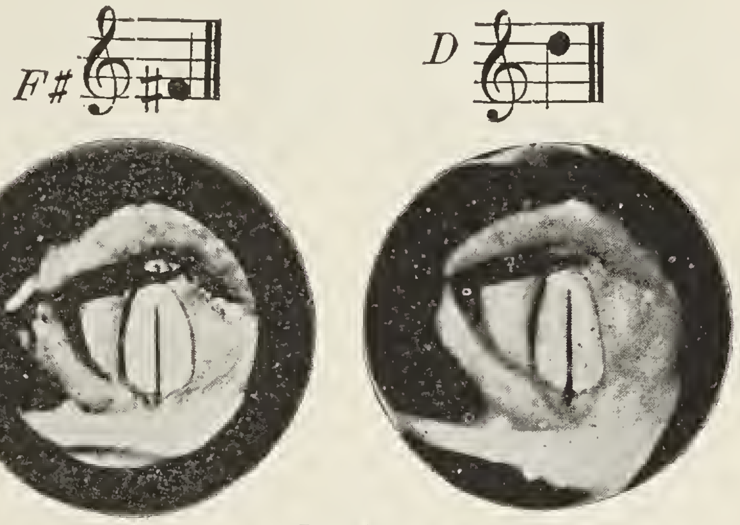
in length does not, however, occur, and the reason will be apparent in the next pair of photographs (Pair 3), which show the changes which took place in the larynx at the lower break in the voice, which, in this subject, occurs at F sharp, treble clef, first space.

The changes which occur at this point are extremely interesting and instructive. In the transition from the lower to the middle register, from E to F sharp, in the voice of this subject, the vibratory portions of the vocal bands are shortened about a sixteenth of an inch. The anterior insertions of the vocal bands can be seen in both photographs; therefore the actual difference in the length of the bands can be appreciated. The vocal bands have not only become shorter, but they appear to be subjected to a much higher degree of tension. The cartilaginous glottis is closed and the aperture in the ligamentous portion has been much reduced in size. The laws which govern the pitch in both string and reed instruments will aid us in explaining this changes Though the tone is higher and the degree of stretching less than in the note below, the tension is increased, and the aperture through which the air passes is much narrower. It seems to me that this clearly defined change in the mechanism of the vocal bands—which, so far as my investigations permit me to judge, are at this point in the scale the rule—will assist us to a clear understanding of the action of the laryngeal muscles in singing when we reach that part of the study.

In the first photograph, which was taken while the subject was singing the note immediately preceding that on which the break occurred, the vocal bands can be seen to be long and wide and the posterior three fourths of the chink of the glottis is open. By *open* I mean that the edges of the vocal bands are not in actual contact. The anterior fourth or fifth of the ligamentous portion of the glottis is closed. The space between the vocal bands is widest in the cartilaginous portion of the glottis. In the production of the next note higher, F sharp, the second of the pair, a marked change in the size of the larynx and in the length of the vocal bands is seen to have occurred. The cavity of the larynx has been suddenly reduced in size and the vocal bands have been shortened. The cartilaginous portion of the glottis is closed and the ligamentous portion is open in a linear slit from the posterior vocal process to within a short distance of the anterior insertions of the vocal bands. The decrease in the length of the vibratory portions of the vocal bands is due to the closure of the cartilaginous glottis, for the ligamentous glottis remains about the same as in the note before the break. The arytænoid cartilages have been brought much closer together and occupy a more posterior position. These pictures were taken one after the other in quick succession, the conditions in every respect, except the note sung, being the same. The antero-posterior and lateral dimensions of the cavity of the larynx are shown to have been considerably decreased when the voice broke into the register above. When the mechanism of the larynx was changed the voice acquired a very different quality, which continued, in gradual elevation of pitch, throughout the register. As marked a change as this in the mechanism of the vocal bands in females is, I believe, only found in the larynges of contralto singers.

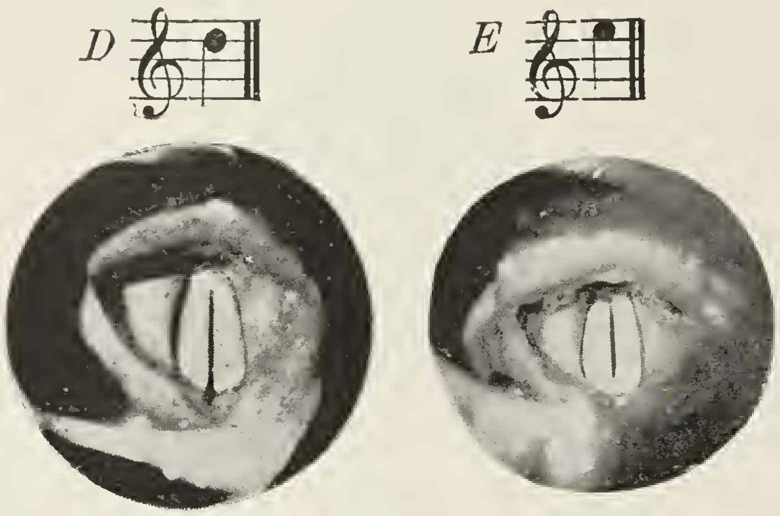
It is believed by many writers on the voice that with the change in the mechanism of the vocal bands the epiglottis is raised higher than in the register below. I am of the opinion that it is usually depressed. The reason for this belief is that, with very few exceptions, I have found it lower in the photographs showing the change than in those representing the note preceding it. When the voice of this subject broke into the middle register it was with difficulty that I could get the epiglottis to rise as high as it is shown here, which, though high enough to show the anterior insertions, is not so high as it was before the break. There does not seem to be any difference in the width of the vocal bands, but in this particular the appearances vary, the variation being due to the position of the ventricular bands. The entire upper surfaces of the vocal bands are rarely exposed to view during the production of the middle and upper notes.

As this singer ascends the scale above the break at F sharp, the vocal bands are increased in length and the chink gradually enlarges, as shown in Pair 4. The first photograph is of the larynx while singing F sharp, treble clef, first space, the note on which the lower break occurred, and the second while singing D, treble clef, fourth line, which is the highest note in the middle register of the voice of this singer. The difference in the length of the vocal bands and width of the chink of the glottis, as the voice mounts from the lowest to the highest note of the middle register, is clearly shown. Not only is it shown that the vocal bands increase in length as the voice ascends the scale, but the cartilaginous portion of the glottis—which, while producing the lowest note of this register, is seen to be tightly closed—has begun to open again, as shown by the small triangular opening which has appeared between the arytænoids in the second of this pair. Again, as the vocal bands increase in length in this register, their tension is apparently decreased. The capitula Santorini, which in the photograph representing the lowest note in the middle register are seen to be close together and occupy a position well backward in the laryngeal image, become more and more separated and are tilted more and more forward in the ascent of the scale.



Pair 4.

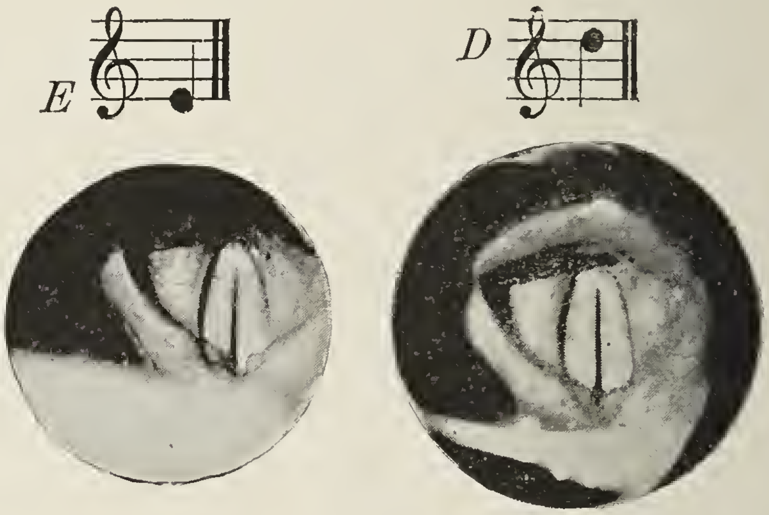
Now the voice mounts one note higher—that is, to E, treble clef, fourth space—and as it does so a distinct change in the quality of the voice is heard and the second change in the mechanism of the vocal bands occurs. The changes which take place in the larynx at the upper break in the voice of this singer are shown in Pair 5. The first of the pair represents the larynx while singing D, treble clef, fourth line, the note immediately preceding the break, and the second shows the change which occurred while singing E, the next note above. A very decided change in the mechanism of the vocal bands is apparent. These ligaments have grown shorter and narrower, and the chink, which in the note before the break can be seen to be linear in shape and quite wide, after the break becomes considerably reduced in both length and width. Not only is the cartilaginous portion of the glottis closed in the note after the break, but also a small portion of the ligamentous glottis adjoining it. The chink appears to be closed to the same extent in front as it was while producing the note immediately preceding. There is, therefore, stop-closure in front and behind which leaves a slit in the middle of the glottis measuring a little more than half the length of the vocal bands. In addition to these changes it may be observed that the epiglottis is depressed and the arytænoid cartilages have again receded. As this is the highest note which this subject is capable of singing with ease, we can not study the action of the vocal bands in the production of tones in the upper register.



Pair 5.

It may be remembered that in this larynx the vocal bands increased in length from the low F sharp to the E above. At the next note above they were suddenly shortened. At the next note higher they began to increase in length again, until D, above, was reached, and at E, the note next above, they were again suddenly shortened. It will be instructive to determine the degree to which the vocal bands were lengthened and at what point in the scale they were longest. We saw that in the lower register the vocal bands were longest in the production of the highest note, and in the middle register they were also longest while the highest note was being sung. By comparing the photographs representing these notes (Pair 6) it can be seen that the vocal bands were as long, if not the longest, while the highest note of the lower register was being sung. In this subject the vocal bands increase in length in each register, but they attain as great a length in the lower as in either of the registers above, if not greater. It is generally thought that the pitch is raised by the vocal bands increasing progressively in tension and length. In regard to length this is true in some cases, while in others it is only true as applied to a register, not to the whole of the voice.

The next series of photographs which I will exhibit are of the larynx of a professional singer who possesses a rich contralto voice of large range and good volume.* Though this singer has as large a range as she whose larynx we have just investigated, the pitch of her speaking voice is several tones higher. Here we shall find that the larynx acts in a very different way from that just examined. The first photograph of this pair was taken while F sharp, treble clef, third line below staff, was being sung; the second, while she was singing D, treble clef, first space below staff. The right arytænoid cartilage overlaps its fellow. In the production of the low note the anterior insertions are covered, and we can not, therefore, see how long the vocal bands really are. The ligamentous portion of the glottis is well open, the chink being much wider behind than in front. The cartilaginous glottis appears to be closed, but I do not think that it really is, but, because of the somewhat unusual setting of the arytænoid cartilages, the cleft between them can not be seen. As the voice ascends the scale, the epiglottis is raised, the vocal bands increase in length, and the chink of the glottis is gradually narrowed until at D, the highest note of the lower register, we find that the vocal bands appear to be considerably elongated, the chink considerably reduced in width, and the epiglottis raised considerably higher. The cartilaginous portion of the glottis still appears to be closed, and there is no evidence of a forward movement of the capitula Santorini. When the next note higher was sung, a very noticeable change in the quality of the voice was heard, and, by examining the photographs taken while that note was being sung with that representing the note below it, it will be seen that a slight change in the mechanism occurred. The epiglottis is depressed. The vocal bands are longer and narrower, their edges are straighter, and the chink of the glottis, which in the note before the break was closed in front, has opened from the anterior to the posterior commissure, and is considerably increased in size. The carti-



Pair 6.

---

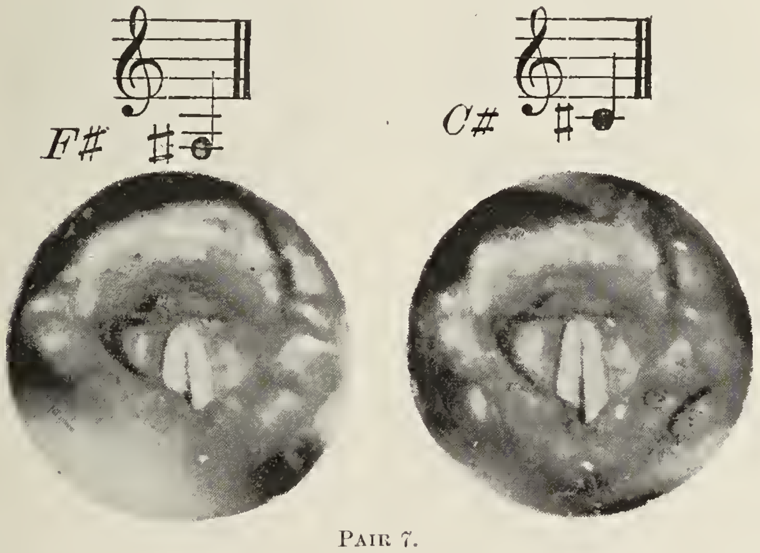
* The photographs of the larynx of this subject are clear and strong enough for satisfactory exhibition upon the screen, but are too weak for direct reproduction by the photo-engraving process.

laginous glottis still appears to be closed. The arytænoid cartilage on the right side occupies the same position as before the break, but the left has moved a little backward.

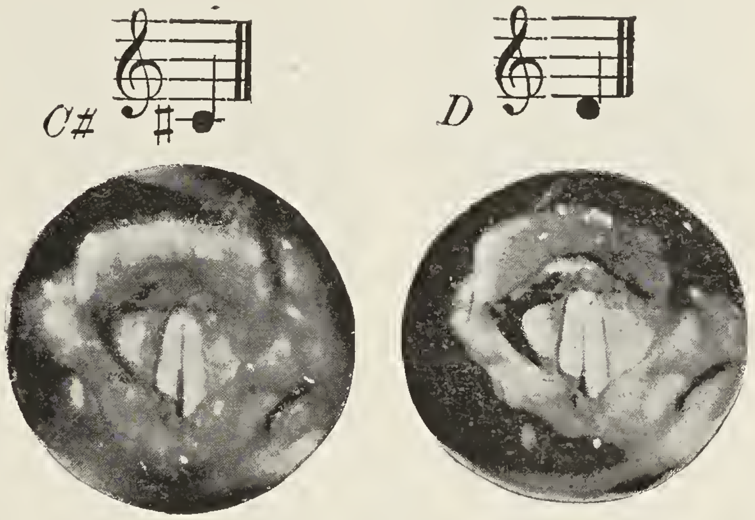
The voice now ascends the scale until D, treble clef, fourth line, is reached, when it can be seen that the epiglottis is slightly raised, the vocal bands appear to be increased in length and decreased in width, and the arytænoid cartilages are turned further forward and brought closer together. The chink of the glottis is still open from front to back, and is altogether larger than in the lower note of this register. The apparent increase in the length of the vocal bands is partly due to the fact that the cartilaginous portion of the glottis is now beginning to open. This note is as high as this subject can sing with ease.

In many particulars the action of this larynx is the reverse of that just examined. In this the cartilaginous glottis does not appear to begin to open until the highest notes are reached. In the lower register the chink of the glottis decreases instead of increases in size as the voice ascends. At the lower break the vocal bands are increased instead of decreased in length, and the chink of the glottis is increased instead of decreased in size. In the larynx before examined the chink of the glottis increased in size and the vocal bands increased in length as the voice ascended in each register, attaining their greatest length at the highest note of the middle register; but in this the vocal bands attained their greatest length at the highest note in the voice of this subject, which corresponds to about the highest note of the middle register.

The next series of photographs which I will show were taken of the larynx of a well-trained soprano singer who possesses the extraordinary range of four octaves. The voice is of excellent quality. The first of Pair 7 was taken of the larynx while F sharp, treble clef, third line below staff, was being sung, and the second while singing C sharp, treble clef, first line below staff. They represent one of the lowest and the highest notes of the lower register of this woman's voice. As the voice mounts the scale, the vocal bands increase in length and the cartilaginous portion of the glottis, which in the lower note is seen to be partly open, increases in size. The arytænoid cartilages recede from the anterior wall of the larynx, and, as they do so, the capitula Santorini seem to pitch forward, leaving a deepening cleft between them. In the neighborhood of C sharp a change in the quality of the voice was heard, not only by myself, but also by a competent judge who listened to the singing of the tones while the photographs were being taken. The change in quality was not great, but was sufficiently distinct to be heard by a trained ear. I say that the change could be heard in the *neighborhood* of C sharp, for the note at which the break occurred varied considerably in this subject. In some of the runs it occurred at C sharp, in others at D or E. Not knowing exactly where it would occur, it was difficult to get a satisfactory idea of the nature of the change in the laryngoscopic mirror. I therefore took photographs while the subject sang each note from the A below to the A above. An examination of the negatives revealed the break at D, a photograph of the larynx while singing which is shown in Pair 8, together with one while singing the note immediately preceding it.



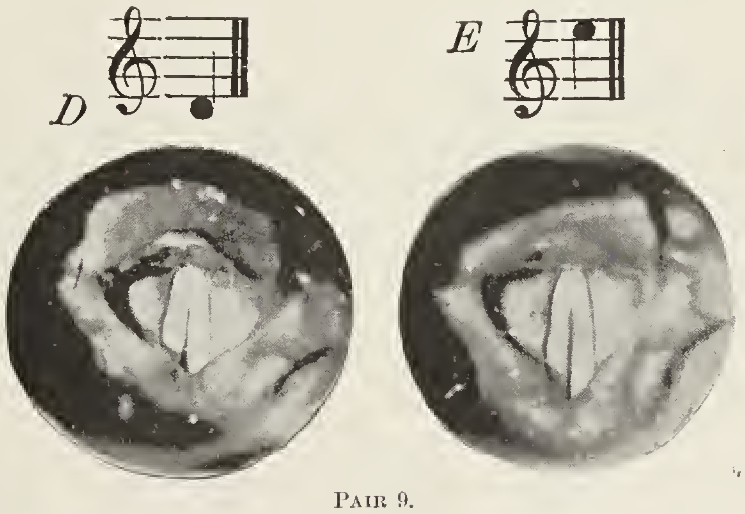
Pair 7.



Pair 8.

The change in the mechanism at the lower break of the voice of this subject consists of a marked decrease in the width of the slit between the vocal bands in the ligamentous glottis and slight tilting backward of the capitula Santorini, and consequently a shallowing of the cleft between them; but, unlike the contralto subject first examined, the cartilaginous glottis still remains open. This condition is, I believe, the exception, a partial or complete closure of the cartilaginous portion of the glottis the rule.

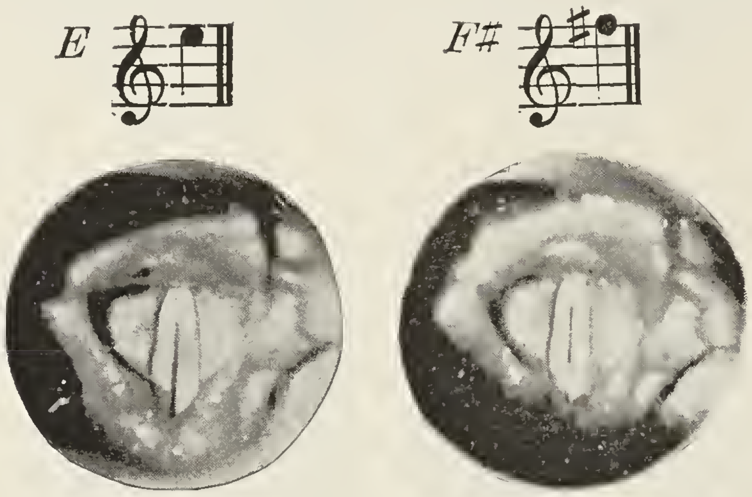
From this point the vocal bands are gradually increased in length and decreased in width as the voice mounts the scale in the middle register, as is seen in Pair 9.



Pair 9.

The first represents D, treble clef, first space below staff, the note after the lower break. The second, E, treble clef, fourth space. These are the lowest and highest notes of the middle register of this subject. Besides the elongation of the vocal bands, which appears to be about an eighth of an inch, the arytænoid cartilages are again tilted forward and the cleft between them is deepened, thus exposing more of the cartilaginous portion of the glottis. The edges of the vocal bands have receded from each other as the voice mounted the scale. In all other respects the same remarks will apply here as were made upon the action of the larynx in the lower register.

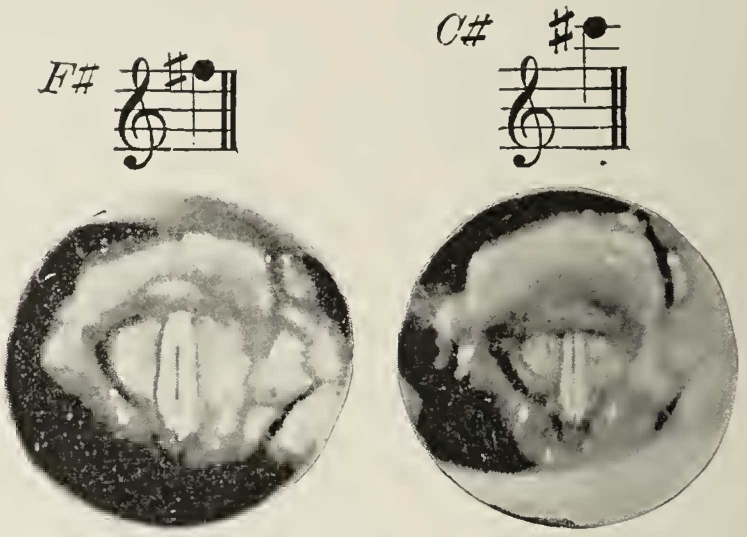
At the next note higher—F sharp, treble clef, top line—another change in the quality of the voice occurred, and with it a change in the laryngeal mechanism, which is displayed in the next pair of photographs. The voice has broken into the upper or head register, and the change in the mechanism is decided. The vocal bands are reduced in length and appear to be narrower. The edges of the vocal bands are closer together, only a narrow linear slit being left between them. The capitula Santorini are tilted backward, and the cartilaginous portion of the glottis is nearly or quite closed. The position of the epiglottis is about the same as when producing the note before the break. Indeed, its position is not changed at either of the breaks in the voice of this subject, which is, I believe, the exception to the rule. This marks the beginning of the upper register.



Pair 10.

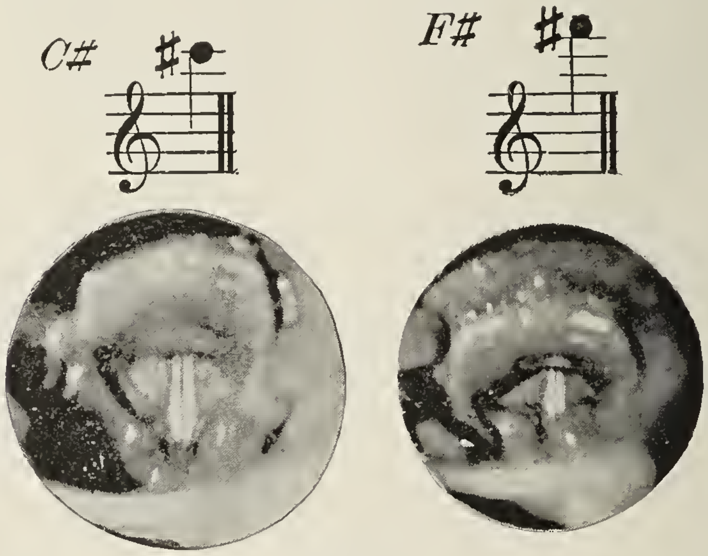
The opinion prevails that in the production of tones in the upper register, some portion of the edges of the vocal bands is in contact, or pressed tightly together. In other words, that stop-closure occurs. Here the anterior fourth of the glottic chink is closed, but the same amount of closure in the same position may be seen in the larynx singing the note before the break. Mucus in the posterior part of the chink gives an appearance of closure at that point, but stop-closure has not occurred in this the lowest note of the head register.

Now the voice mounts to high C sharp. Pair 11 shows the larynx while singing that note, and the note on which the voice broke into the head register. In that representing C sharp it can be seen that the whole of the cavity of the larynx is smaller and the vocal bands and the chink of the glottis are narrower. The vocal bands appear to be much shorter, but, as the anterior ends are covered by the cushion of the epiglottis, it is impossible to say how much shortened they really are. The arytænoid cartilages are closer together and are inclined farther forward in the high than in the low note of this register. The mucous membrane covering the lateral walls of the larynx is wrinkled, showing that during the production of this high note it is not capable of contracting to a sufficient extent to present a smooth surface. In the high note even the contact between the vocal bands which can be seen in the lowest head note, and which we saw occurred in the production of notes in the middle register, has disappeared, and there is a clear linear space between the vocal bands the entire length of the glottis.



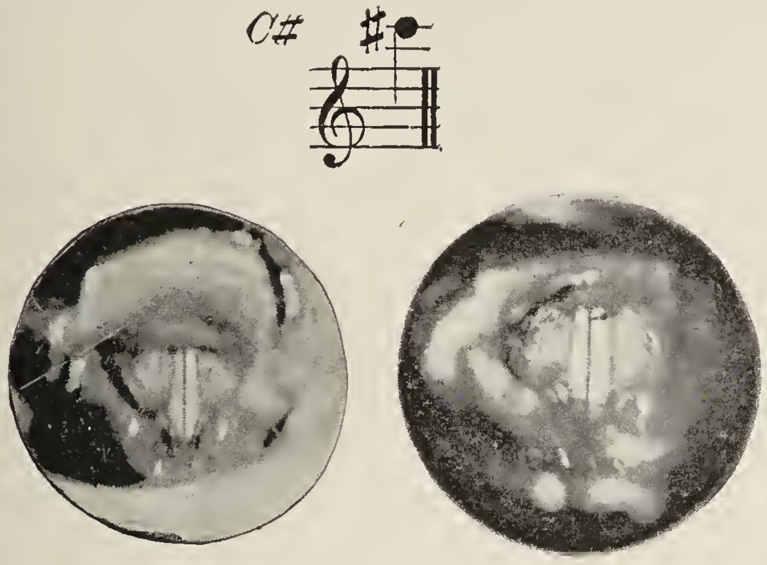
Pair 11.

The next pair (Pair 12) represents high C sharp, and a still higher note in the voice of this subject—F sharp. In that representing F sharp we may observe that the cavity of the larynx is greatly contracted. The epiglottis not so high as when C sharp was being sung. In fact, the four walls of the larynx are crowded toward the center and the epiglottis is curled inward. The arytænoid cartilages are almost, if not quite, in contact. The vocal bands are very short and look like threads. The most surprising revelation made in this picture is that there is no stop-closure. It is possible that there was slight contact between the edges of the vocal bands in the posterior portion of the glottis, but it is my opinion that air was passing between the edges of the vocal bands the entire length of the glottis when this photograph was taken.



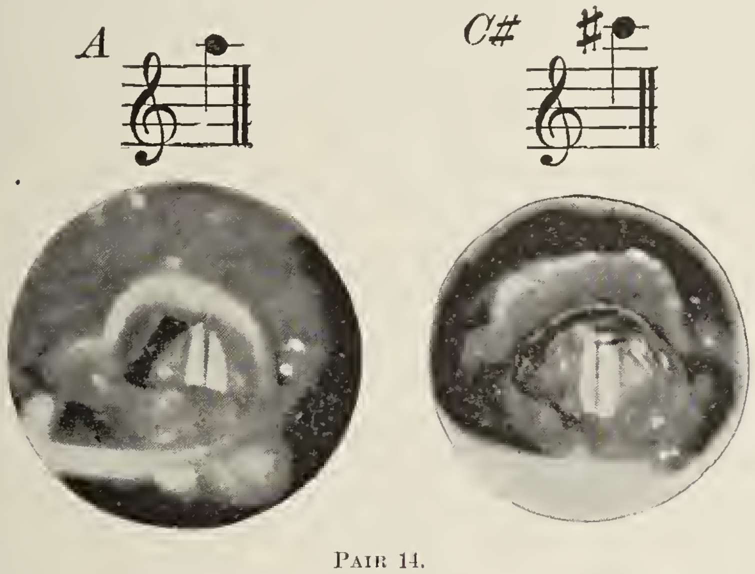
Pair 12.

Here (Pair 13) is a photograph of another larynx, taken while high C sharp was being sung in the head register, coupled with the photograph of the same note which we have just examined. Here, also, we find that there is no contact between the edges of the vocal bands.



Pair 13.

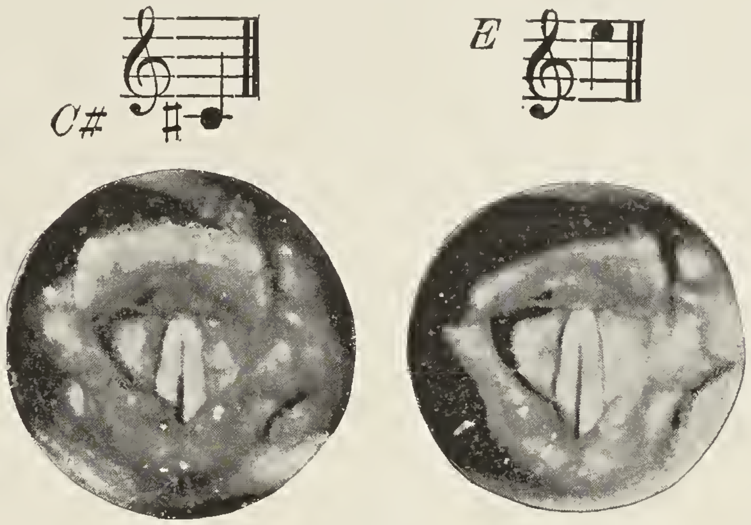
While the photographs represented in Pair 14 were being taken the subjects were, without question, singing pure head tones. I felt morally certain, while viewing the vocal bands in the laryngoscopic mirror attached to the camera at the instant the photographs were taken, that there was close contact between the posterior third of the vocal bands in the first subject, and a "jam" between the edges of the posterior half of the glottis in the second. The photographs, however, show that in the first subject the vocal bands are closer together behind than in front, but there is no contact. In the second there is contact, but the edges are by no means as tightly pressed together as they seemed to be in the mirror. The eye was deceived while viewing the reflections in the mirror, and this deception has occurred not infrequently in my studies.



Pair 14.

There is, perhaps, a greater uniformity in the opinions of writers in regard to the mechanism of the vocal bands in the production of tones in the upper, or head, register than upon any other action of the glottis in singing. Indeed, I am not aware that there is a writer of prominence who does not believe that stop-action occurs in all head tones. From the revelations made in the photographs of the glottis, taken while head tones were being sung, I would offer the opinion that contact of the vocal bands in the first five or six tones does not occur in half the cases.

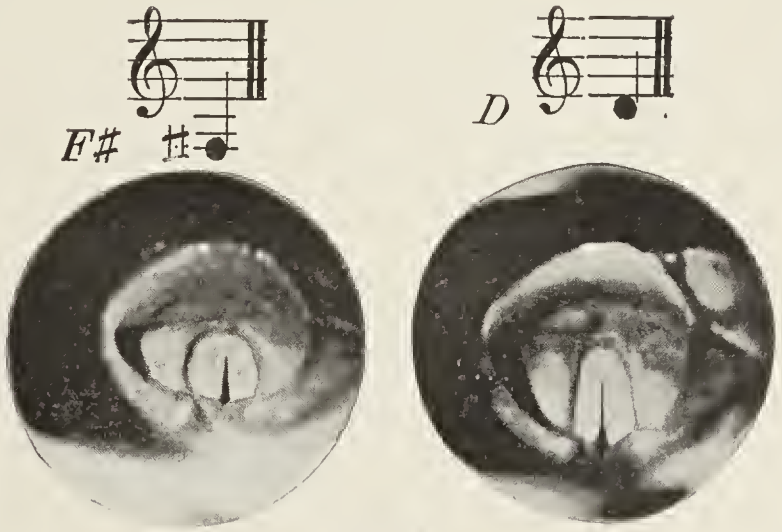
Now, permit me to return to the series which we have just been studying to determine the point in the compass of this voice at which the vocal bands are found to be longest. The vocal bands increase in length as the voice ascends the gamut in each register, so that they are longest at the highest note of each register. Let us, therefore, compare the photographs representing the highest notes of the lower and middle registers. It is not necessary to apply the measuring line to prove that the bands are longest in the highest note of the middle register; the difference is evident to the eye.



Pair 15.

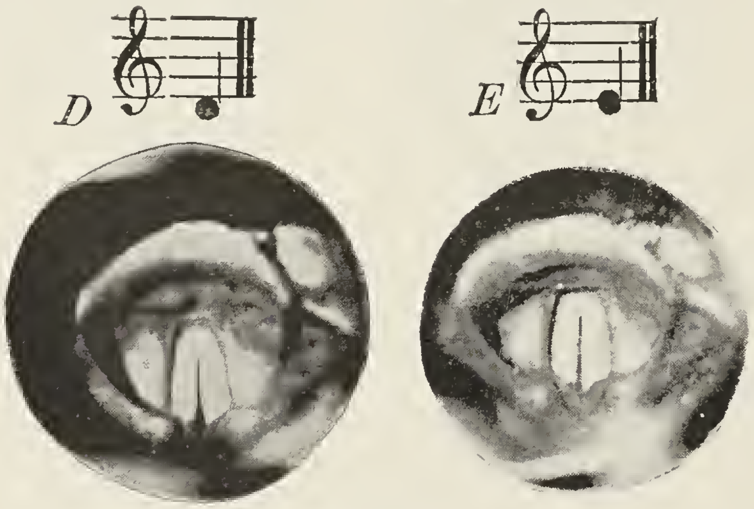
I have as yet been unable to determine that training of the voice affects the action of the glottis. The same conditions are occasionally seen to exist in the larynges of both trained and untrained singers while singing the same notes in the same register. The differences are as great in the action of the glottis in trained singers as between trained and untrained.

The next series of photographs were taken of the larynx of a soprano. The subject has a correct ear for music and has a good voice of small range. She knows nothing of the science of singing, never having received any kind of vocal instruction. She may therefore be called a natural singer. I took photographs of her larynx while singing from the lowest to the highest tones which she can sing with ease. Pair 16 shows the larynx while singing one of the lowest and the highest notes of her lower register—viz., F sharp, treble clef, third line below staff, and D, treble clef, first space below staff. The action of the larynx in this register is unlike either of those we have examined



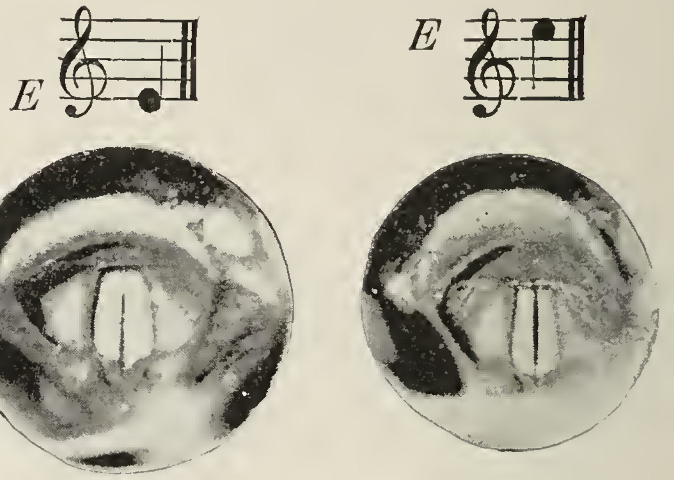
Pair 16.

to-day. In the first contralto and first soprano subjects both the ligamentous and cartilaginous portions of the glottis were open and the chink increased in size as the voice ascended. In the second contralto subject only the ligamentous portion of the glottis appeared to be open, and the chink decreased in size while the scale was ascended. Here the ligamentous and cartilaginous portions of the glottis are seen to be open, and there is a relative decrease in the size of the chink as the voice mounts upward. The anterior insertions show well in both photographs, and by measurement it is found that the vocal bands increase one third in length in this register. The epiglottis rises and the capitula Santorini are tilted forward and brought closer together as the voice ascends. At the next note above—E treble clef, first line—a change in the quality of the voice was distinctly heard, which was accompanied by a change in the position of the various structures of the larynx, the nature of which can be seen in Pair 17. The epiglottis has dropped to a considerable extent. The anterior faces of the arytænoid cartilages are exposed to view, showing that they have been tilted backward. They can also be seen to be farther apart than in the note before the break, and yet the cartilaginous portion of the glottis, which was partly open in the note below, is now closed. The chink presents as a linear slit and the vocal bands appear to be much more tense. The vocal bands in the two photographs seem to be about the same in length and width. As the voice ascends from this point, the epiglottis rises and the vocal bands appear to decrease in length, but whether they are really shortened can not be determined, as the anterior insertions are covered by a fold of tissue at the lower boundary of the anterior wall.



Pair 17.

In the photograph representing the highest note which this subject can sing with comfort—E, treble clef, fourth space—which is shown with that representing the note after the break in Pair 18, the chink can be seen to have an elliptical shape, and the edges of the vocal bands, instead of being in contact in front, as can be seen in the photograph representing the lower note, are in contact to a slight extent posteriorly. The arytænoid cartilages are seen to be closer together in the upper note and the mucous membrane between them has tightened up to a considerable extent. The epiglottis rose as the voice ascended the scale in this register. It is very certain that this woman was not singing a head tone at the time the last photograph was taken. She is incapable of singing in the head register. It is therefore somewhat surprising to find that the mechanism used is that commonly believed to be characteristic of the upper register. It is also interesting to observe that the vocal bands are apparently shorter in the highest than in the lowest note of this register, and therefore shorter than while producing the highest note of the lower register.



Pair 18.

The four series of photographs which have been shown to-day were not selected to prove any preconceived ideas. They simply represent the variations which will be met with in any four consecutive studies. It is therefore scarcely to be wondered at that the theories regarding the action of the glottis in singing differ so widely, especially those based upon the study of one subject or a few. In all of the larynges examined to-day we found a change in the mechanism of the vocal bands in the neighborhood of E, treble clef, first line, and in those capable of singing tones in the upper register, another in the neighborhood of F sharp, treble clef, top line. In twenty-five or more female subjects whose larynges I have investigated in the manner demonstrated to-day, I have not failed to find evidence of changes at one or both of these points in the scale. I am of the opinion that the female voice has three registers. It is quite probable that, in voices with exceptional ranges, there are four registers, but sufficient evidence has not yet been obtained to make this demonstrable.

Though the number of series of photographs which have been taken of the larynx in singing is quite large, I do not yet feel justified in drawing definite conclusions from them, regarding many of the movements of the glottis at different points in the scale, but, from the study made thus far, the following conclusions regarding the glottis of the female may, I think, be safely drawn:

1. The larynx may act in a variety of ways in the production of the same tones or registers in different individuals.

2. The rule—which, however, has many exceptions—is that the vocal bands are short and wide and the ligamentous and cartilaginous portions of the glottis are open in the production of the lower tones; that, as the voice ascends the scale, the vocal bands increase in length and decrease in width, the aperture between the posterior portions of the vocal bands increases in size, the capitula Santorini

are tilted more and more forward, and the epiglottis rises until a note in the neighborhood of E, treble clef, first line, is reached. The cartilaginous glottis is then closed. The glottic chink becomes much narrower and linear in shape, the capitula Santorini are tilted backward, and the epiglottis is depressed.

When the vocal bands are shortened in the change at the lower break in the voice, it is mainly due to closure of the cartilaginous portion of the glottis, the ligamentous portion not usually being affected. If, therefore, the cartilaginous glottis is not closed, there is usually no material change in the length of the vocal bands.

As the voice ascends from the lower break, the vocal bands increase in length and diminish in width, the posterior portion of the glottic chink opens more and more, the capitula Santorini are tilted forward, and the epiglottis rises until, in the neighborhood of E, treble clef, fourth space, another change occurs.

The glottic chink is then reduced to a very narrow slit, in some subjects extending the whole length of the glottis. In others, closing in front, or behind, or both. Not only is the cartilaginous glottis always closed, but the ligamentous glottis is, I believe, invariably shortened. The arytænoid cartilages are tilted backward and the epiglottis is depressed. As the voice ascends in the head register the cavity of the larynx is reduced in size, the arytænoid cartilages are tilted forward and brought closer together, the epiglottis is depressed, and the vocal bands decrease in length and breadth. If the posterior part of the ligamentous portion of the glottis is not closed in the lower, it is likely to be in the upper notes of the head register.

A SECOND NOTE UPON HOMONYMOUS HEMIOPIC HALLUCINATIONS.*

By FREDERICK PETERSON, M.D.

In Insanity.—In the *New York Medical Journal* for August 30, 1890, I described a case of chronic delusional insanity, or paranoia, in which the visual hallucinations present (ghosts, skeletons, faces, etc.) had the remarkable peculiarity of always appearing in the right fields. There was no hemianopsia. The closing paragraph of that description was as follows:

> "Unilateral hallucinations of one eye alone, or uni-ocular hallucinations, have been described by several authors as occurring in the insane, but, so far as I know, this is the first reference that has been made to visual hallucinations of the character herein mentioned, and for which I can find no simpler name than that which forms the title of this article."

Although this would seem to be the first reference that has been made to homonymous hemiopic hallucinations occurring in the insane, it is not the first time that such hallucinations have been mentioned in connection with other brain disorders. Dr. Seguin has, I think, the priority in publishing an account of this phenomenon.

Preceding Hemianopsia.—Dr. Seguin, in his Clinical Study of Lateral Hemianopsia (*Jour. of Nerv. and Ment. Dis.*, August, 1886, pp. 5–8), details a case of embolism of the left occipital artery in a woman, aged thirty-four, who at the close of her third confinement,

> "just after the child was born, had a peculiar attack, in which she experienced a 'snap' or sudden pain in the left temple, and felt giddy. For several days afterward she had severe pain in the head, and could not see objects to her right. At the same time that she first noticed darkness to her right there were a few simple hallucinations (a chair, a chicken, etc.) in the dark half-fields."

Commenting upon this case, Dr. Seguin wrote at that time (June, 1886):

> "A very interesting symptom, not heretofore described (to my knowledge), occurred in one case. This consisted in hallucinating images in the half-fields which has just become blind. The images were few and simple, such as a chicken, a chair, etc., and rapidly passed away. It seems to me that these hallucinations represented the irritation of the cortical visual center just previous to its destruction; and that they are the analogues of the localized convulsions which are now generally spoken of as indicating an irritating lesion of the cortical motor centers. . . . It is probable that further inquiry will show that hallucinations occur not infrequently at the outset of hemianopsia."

Accompanying Hemianopsia.—Through Dr. Seguin, Dr. John Van Duyn, of Syracuse, has courteously sent me the following notes of a case seen in his practice presenting the phenomenon of hallucinations occurring in the dark fields of hemianopsia:

> "Mrs. J., forty-five years old, the mother of two children, twelve and four years old. She is tall, thin, partially gray, and sallow. She has never been very strong, and has always suffered more or less from headache. The lungs and heart are normal. When the children were born, hæmorrhage was so profuse and exhaustion so great that after each birth she was confined to the bed six weeks. Shortly after the birth of the last child, four years ago, and within the first week, she began to suffer from piercing pain in the right temple, which continued about two weeks. Then she had trouble with vision. 'Everything seemed to twinkle, and in all directions it seemed as though everything was surrounded by waving heated air, such as arises from a stove, an effect people often experience just before an attack of sick headache.' Vision was indistinct and there was a blur before the eyes. After this indistinctness of vision had existed some time, she observed that the left half of the field of vision was dark and blind. One week after the occurrence of this blindness hallucinations appeared in the blind region. Cats and dogs and children arranged themselves in rows and formed processions, the children moving in circles, the dogs and cats being still. This continued without any variation and without interruption, except by sleep, for four weeks. The vividness of the scene and the activity of the objects were increased by fatigue or during attacks of headache. After the fourth week the hallucinations disappeared quite suddenly and never returned. The hemiopia has continued. She complains of no trouble except of getting easily tired and of an occasional nervous feeling in her head. She does the work for a family."

In Epilepsy.—Hemianopsia has been frequently noted by various authors as occurring in epilepsy, but hemiopic hallucinations must be very rare, since many, like Gowers, do not even mention it. A case of this kind recently came under my observation at the Vanderbilt Clinic:

---

* Read before the New York Neurological Society, December 2, 1890.

John M., aged eleven, has had for two years an attack of grand mal about once a week. Convulsions general. He always has a visual aura of a white star shining to the left.

In Migraine.—While hemianopsia, muscæ volitantes, etc., are frequent precursors or concomitants of migraine, the appearance of hemiopic spectra in the dark portions of the visual field is rather infrequent. They consist of bright spots, shadows, or irregular arabesque figures. Gowers gives a good description of them.

In Hemiplegia with Hemianopsia.—By far the best contributions to the subject of homonymous hemiopic hallucinations in connection with organic disease of the brain are those of Henschen, in his remarkable book just issued this year (*Klinische und anatomische Beiträge zur Pathologie des Gehirns*, Upsala, 1890). He describes four cases with such hallucinations, three of the patients having hemiplegia and hemianopsia also, while in one they were associated with hemianopsia, mind-blindness, word-blindness, and agraphia. Autopsies were made in two of the cases. The following is a brief synopsis of the cases:

CASE XXI.—Male, aged sixty-two, three apoplectic attacks in 1887 and 1888. Right hemiplegia, some aphasia, paroxysms of laughter and visual hallucinations after the first attack. Deeper aphasia, right hemianopsia after the second seizure. Right-sided hallucinations, for several days after a third attack, of seeing a boy near his bed whom he requested the nurses to remove. Increasing stupidity. Autopsy showed softened areas in the right occipital lobe (O_1 and O_2), internal capsule, and frontal radiation.

CASE XXII.—Male, aged sixty, left hemianopsia without hemiplegia, left-sided visual hallucinations, a certain amount of word-blindness and mind-blindness in the fall of 1885. The hallucinations were of persons and faces constantly present for a long period of time to the left. Autopsy showed softened areas in the right cuneus and lobulus lingualis and in right thalamus. It is but fair to quote Dr. Henschen's remarks concerning the hemiopic hallucinations in this case:

"I can hardly err when I say that, at least at the time in February, 1886, when I first publicly demonstrated this case to physicians, this was the first case in which visual hallucinations constantly projected in a certain direction have been observed, and the anatomical lesion upon which they depend studied."

CASE XXXV.—Male, aged sixty-nine, left hemiplegia, left hemianopsia, left-sided hallucinations of seeing water, fire, smoke, soldiers, a little pig eating oats, etc. Left uni-aural hallucination at times. Hallucinations not transitory, but often lasting for many minutes, and observed during several months. No autopsy.

CASE XXXVI.—Female, aged seventy-six, right hemiplegia, aphasia, right hemianopsia, mind-blindness, right-sided visual hallucinations of cats, etc. The hallucinations continued for several weeks. Patient improved and went home.

Remarks.—The pathological basis for this interesting phenomenon of homonymous hemiopic hallucinations must, of course, lie in irritation of the cortex of the occipital lobe. In connection with this subject, I can not do better than quote part of a private letter from Dr. Seguin, dated October 15, 1890, in which he says:

"As regards the hemiopic auræ of epilepsy and migraine, they have been a great deal mentioned, but I doubt if the true theory of the projection has yet been published. Hammond some years ago read a paper on thalamic epilepsy, in which he attributed hemiopic auræ to irritation of the thalamus. Several of us held out for a cortical irritation, but we did not then know the visual center. However, I think it does not follow that the irritation in such cases is of the cuneus. This is undoubtedly a positive center (a sort of first cortical station) for visual impressions; but there are many reasons for thinking that residua of visual impressions are redistributed and stored in various gyri of the occipital lobe, so that while destruction of the cuneus (and of the gyrus just below) *must abolish* half of vision, it does not follow that all projections are due to an irritation of this small part; they may be due to irritation of various parts of the occipital cortex (on one side for hemiopic auræ)."

As regards the hemianopsia of migraine, Dr. Seguin thinks that

"spasm of the occipital artery (supplying the cuneus on one side) may quite surely be assumed to occur" (*N. Y. Med. Journal*, April 26, 1890, foot-note, page 450),

and I am of the opinion that partial anæmias in the cortex due to the same cause may account for the hallucinatory symptoms in the same disease.

While irritation from organic lesions and from vascular spasm easily makes clear the origin of homonymous hemiopic hallucinations in most of the cases cited above, the manner of their production in a case of paranoia, such as I have described in my first note upon this subject, is rather more difficult to explain.

In the periodic functional disorders migraine and epilepsy, where left-sided or right-sided hallucinations and generally hemianopsia precede the attacks, there is a periodic occipital cortical discharge with more or less complete obscuration of the visual half-fields.

In the organic diseases of the brain there are two conditions. In Dr. Seguin's case, simple transitory hallucinations announced the onset of an organic lesion which rapidly produced complete blindness toward the right. In Dr. Van Duyn's case and in Dr. Henschen's four cases—all organic cases—the hemiopic hallucinations projected in the dark fields lasted from a few days to a few months.

In my own case there was no reason to suspect organic disease of any kind; there was no hemianopsia, and the hallucinations had endured for months. This would bespeak a mild, chronic nutritive disturbance in the cortex, without periodicity, as in migraine and epilepsy, and not limited in duration by the advance or recession of some coarse lesion as in the organic cases cited. Indeed, we must adduce the same sort of theory to explain the acute hallucinations of ordinary delirium or the chronic hallucinations of insanity; only in this patient the protoplasmic molecular discomposure seemed to be limited to certain cortical areas of one hemisphere.

A Balneological Congress.—The thirteenth Congress of Balneologists will be held at Berlin, next March, under the presidency of Professor Liebreich. For further details, address the secretary, Dr. Brock, Schmidtstrasse, Berlin.

THE ADMINISTRATION OF STERILIZED MILK IN DISPENSARIES.*

By HENRY KOPLIK, M. D.

THE administration of sterilized milk in institutions to masses of patients must meet one insurmountable obstacle. If administered *à la Soxhlet*, the mere labor of washing bottles must act in limiting the number to whom the milk is administered. In dispensaries where the patients must transport the milk, this is peculiarly true, for no system can as yet replace the Soxhlet method of separate nursing-bottles. I described my method of giving milk to dispensary patients and showed the apparatus at the May, 1890, meeting of the County Medical Society, and will here not give a lengthy paper, but limit myself to some of the points obtained from experience with this system of treating dispensary cases. Among this class of patients any reform, especially in infant dieting, meets its greatest drawbacks. At an expense of ten cents, or gratis in some cases, we gave each mother daily an outfit of seven bottles, each holding three ounces of sterilized milk, making twenty-one ounces of sterilized milk at ten cents.

Seven thousand bottles of sterilized milk were thus distributed to infants in my service. They received the milk for periods ranging from a few days to weeks or the entire summer months. The ages of the patients varied from seven weeks to thirteen months. When the little patients were improved or cured, the parents were either instructed how to prepare the milk or were told to buy an apparatus, or were furnished with an apparatus for preparing the milk.

Class of Cases.—Most of my patients suffering from the disorders of the digestive tract are breast-fed; this is fortunate, for such cases are easily cured. The bottle-fed infants alone received the milk. My cases were acute gastroenteritis, chronic entero-colitis, acute intestinal dyspepsia, and cholera infantum. In each case, and especially of the last-named disease, all food was either stopped or limited until the severe symptoms had been tided over. Stomach-washing and medicaments, or starving (giving the stomach rest), were actively used to aid me. In cases of acute dyspepsia accompanying typhoid fever and pneumonia, where no food could be retained (even, for some reason, the breast milk of the mother), the sterilized milk was used with brilliant results.

A hundred and thirty-four cases were thus carefully observed, and the following sums up my experiences:

1. The most satisfactory are the acute cases. In chronic cases the patients may improve, and some may continue to run down hill.

2. Chronic entero-colitis, combined with atrophy, below the age of six months, was pre-eminently unsatisfactory. The severe symptoms (diarrhœa and vomiting) ceased, but the patients did not increase in weight or improve, and finally died.

3. Patients with chronic entero-colitis above this period, even with a certain amount of atrophy, held their own, and to-day are living with no trouble and increased in weight.

4. Acute dyspepsias accompanying acute infectious disease were very satisfactory. In one case the little patient, suffering from pneumonia, was saved by this food alone; incessant and exhausting vomiting set in as soon as other food (ordinarily prepared milk, breast milk, artificial food) was tried.

5. The first symptom to improve and abate was the vomiting, and this generally within the first twenty-four hours. This makes me conclude (empirically) that this steamed or sterilized milk is increased in its digestibility over other foods in some unexplained way.

6. In chronic entero-colitis, combined with vomiting (dilatation of the stomach), the vomiting improved only gradually, as did also the diarrhœa. This should be borne in mind.

7. In some cases inordinate constipation replaces the diarrhœa and needs treatment.

8. Some cases, in which the movements had a very offensive odor with other foods, improved in this respect with sterilized milk.

9. As hinted above, cases of chronic duration, in which the stomach was apparently dilated, had to be treated with stomach-washings at intervals, even during the administration of sterilized milk.

10. In acute cases or chronic cases with vomiting and diarrhœa, in which the patients had been trying all varieties of food, a single preliminary stomach washing, followed by rest for from six or eight to twelve hours, or even twenty-four hours, during which nothing but albumin water was used, gave brilliant results.

11. In some cases, either acute or chronic, the patients did not improve with sterilized milk; they became worse, and the mothers disappeared from observation discouraged.

12. I try to impress the patients that the milk is steamed and not boiled, and this aids in its administration and gains success where this would otherwise be impossible. There are minds which can not see why, when milk is boiled on the stove, it is not as good as the Soxhlet plan.

13. Experience is in favor of first sterilizing the milk and diluting it *only* when just ready for use.

14. As diluents we may use barley water or lime water, or in some cases an artificial food seems to do well.

15. Sterilizing skimmed milk, and that prepared by formulæ which direct to skim it and then add cream, has not been a success in my hands.

16. In cases where the mother is able to nurse the infant at the breast only a part of the day, sterile milk is an invaluable adjunct in that it enables one to observe exactitude and cleanliness in the giving of the auxiliary food much more than has hitherto been possible.

17. The day may never come when sterilized milk will be sold in separate nursing-bottles at stores within the reach of all, for the simple reason of cost; future labors must lie in the furnishing of dairies with apparatus for sterilizing milk on the spot, and thus preventing decomposition in transportation. Such milk on reaching the city could be sold at depots all over the city (controlled by those in-

---

* Read before the Section in Pædiatrics of the New York Academy of Medicine, November 12, 1890.

terested in the welfare rather than the monetary circumstances of the poor). Such milk might be taken away in suitable cans by the purchaser, and thus the elements of adulteration at least eliminated.

18. Even under the above-mentioned conditions very warm weather might require the possession of a small suitable home apparatus. For the very poor, the ordinary potato-steamer supplied with nursing bottles is sufficient. But the market is supplied with several cheap apparatuses; the simplest and best by far is the wire basket, with eight medium-sized Soxhlet bottles and *ordinary* rubber corks; this, combined with the large-sized kitchen pot, makes an excellent apparatus. I mention this, having been asked this identical question by many general practitioners. A few injunctions from the physician about the quantity to be administered and the manner of administration are preferable to the most elaborate circulars.

SOME RECENT CASES OF OPERATION FOR UTERINE FIBROIDS.

By D. TOD GILLIAM, M. D.,
PROFESSOR OF OBSTETRICS AND DISEASES OF WOMEN, STARLING MEDICAL COLLEGE, COLUMBUS, OHIO.

I HAD it in mind before commencing this report to head it The Cæsarean Section for Soft Uterine Fibroids, but, finding that my recent experience in dealing with fibroids presented rather a varied complexion, I concluded to present them in the present form. Without reference to chronological order, I will commence this report with one of the most recent, both because of its intrinsic interest and the very formidable character of the operation made necessary by the variety and character of the complications:

Hysterectomy for Soft Uterine Fibroid.—Ella B., residence Lancaster, Ohio, unmarried, aged forty, dates her trouble from an injury received by being thrown from a carriage in Philadelphia during the Centennial Exposition in 1876. Through modesty she would not submit to an examination until about three years ago, when Dr. Goss, of Lancaster, found a large, soft fibroid occupying the uterus and filling the vagina. Of this he removed as much as possible, and the patient improved. Some time later Dr. G. W. Boerstler operated again with marked benefit to the patient, after which she enjoyed a respite of considerable duration. About four months ago, the growth having attained its former dimensions, he operated the second time, making the third in all. These operations are described as having been very bloody, and it was found impossible to get the entire growth away, notwithstanding the use of the spoon saw and all modern appliances and methods. Of the skill of the operator I can vouch from personal knowledge. Since the last operation the tumor has grown rapidly, filling the vagina and distending the uterus. In desperation to get the entire growth away at all hazards short of life itself, prolonged and vigorous measures were used. This was followed by much peri-uterine inflammation, and she has been confined to her bed ever since, with constantly recurring chills and sweats and progressively declining health and strength. It became evident that unless soon relieved she must succumb, and I was called in council. Examination disclosed the vagina filled with a softish, cellular, friable mass about the size of the fœtal head. The uterus was about the size of the sixth month of pregnancy. On the left of the uterus and closely connected therewith was another mass somewhat less in size than the uterus itself and quite immovable. It was decided that nothing but hysterectomy offered any chance of relief, and this, in view of the complications and the greatly reduced condition of the patient, seemed like a forlorn hope. Besides, it was questionable whether enough room could be found on the left broad ligament to render the operation practicable. After a very candid statement to the patient setting forth the manifold difficulties and dangers of the operation, she was left to her own thoughts a few days. She determined upon the operation and was anxious for it. I confess that I hoped she might decide against it, for such cases are neither creditable to surgery nor the surgeon.

Still I think the patient has some rights that we are bound to respect, and where, as in this case, the result is inevitable and speedy death without interference, he is entitled to the chance, though a forlorn one, for his life.

On December 15th, at 11.30 A. M., at her home in Lancaster, Dr. Boerstler, the two Drs. Goss, Dr. Nourse, and Dr. E. M. Gilliam being present and assisting, the operation was commenced by Dr. Boerstler attempting to remove as much as possible of the tumor *per vaginam* in order to clear the cervix for the subsequent steps of the operation. This, of course, was to be done with great expedition, as the long and hazardous intra-abdominal work necessitated economy in time and the curtailing of the period of etherization. This being accomplished quite satisfactorily, the vagina was packed with sponges to arrest hæmorrhage.

I now made a long abdominal incision and immediately came upon several depots of very fœtid purulent matter in the peritoneal cavity which extended from a little below the umbilicus to the pubis. This being cleared away, an exploration revealed universal adhesions. The incision was now carried above the umbilicus. The object being to deal with the mass to the left of the uterus first, the task of breaking up its adhesions was first commenced. It was firmly adherent to the omentum, the bowels, the abdominal and pelvic walls, and the bladder. The adhesions at the latter point were so firm and required so much force to effect separation as to excite fears at one time that I had torn into that viscus. The introduction of a sound, however, demonstrated our fears to be groundless. It being found impossible to strip off this layer in its entirety, it was tied off and cut. A number of others were dealt with in like manner. The mass proved to be cystic, and, at the last moment before being lifted out of the abdominal cavity, ruptured, inundating the cavity with pus. This was disposed of as quickly as possible, and work commenced on the uterus. This being freed and lifted out of the abdomen, an elastic ligature was thrown around the cervix as low down as possible. The cervix was very bulky, owing to the remaining portion of the intra-uterine growth, and, furthermore, it was found impossible to bring the ligated portion into the abdominal wound. Our only alternative was to make flaps and drop the pedicle. An incision for one of the flaps being made, the tumor protruded, and I was surprised and pleased to note with what ease it was drawn up through the cervix, despite the tight embrace of the rubber ligature. This gave us a much less bulky stump. Both flaps being formed and the uterus removed, the cervix was transfixed with a stout linen thread (the silk not proving strong enough), the flaps were brought together by through-and-through deep sutures, and the edges by the whip stitch. Not a drop of blood escaped from the uterus. The lower portion of the omentum was now ligated and excised on account of injuries received in freeing it from adhesions. After thorough hot-water irrigation and the introduction of a drainage-tube the abdominal cavity was closed. Several times during the operation the patient's condition was critical in the extreme, and hypodermics of nitroglycerin were resorted to with good effect. It was also noticed that the hot irrigation had a salutary effect. Hot towels were used over and about the wound throughout the operation. She was now placed in a warm bed between blankets and surrounded with bottles of hot water. Brandy was also given hypodermically. The operation lasted an hour and thirty-five minutes. As the ether had been withdrawn in the last stages of the operation, it was not long until she regained consciousness. She suffered neither pain nor sickness of the stomach, but remained profoundly shocked. With occasional feeble attempts at reaction the vital energies gradually waned, and she died quietly on the evening of the second day.

The only comment I care to make on the case is that one of my formulated plans of operation was, after cleaning the abdominal cavity and breaking up adhesions, to incise the womb longitudinally, as in Cæsarean section, and through this opening remove the tumor. The entire feasibility of this plan became plainly manifest after the first flap was made. My excuse for not doing so in this case was the extremely critical condition of the patient, which did not justify any innovation of uncertain issue, though the time consumed were but the fraction of a minute. I would suggest, however—or, to use a stronger expression, advise—that in growths of like character, where an honest attempt at removal *per vaginam* had proved futile, this plan be adopted, as it undoubtedly gives promise of most beneficial results. Should exploration reveal the attachment of the hard variety elsewhere than at the anterior meridian, it might also work to advantage.

Submucous Fibroid.—J. L., widow, aged sixty-seven, menopause at forty-four. Eight years after, experienced severe uterine hæmorrhage, and at intervals ever since. Of late the hæmorrhages have been increasing in frequency and severity. On examination, found os dilated and submucous fibroid presenting. It was drawn down, and the pedicle thus formed severed with scissors. She recovered immediately.

Intramural Soft Fibroid growing toward the Cavity.—W. R. P., married, aged forty-three; residence, Licking County, Ohio. Has suffered much for years from pelvic pain, uterine hæmorrhages, and general systemic disturbance. Has the remains of peri-uterine inflammation, which, upon slight provocation, lights up into active form. She was operated on at her home. Under chloroform the cervix was rapidly dilated and the growth found to be attached by a broad base on the right side from the fundus to the internal os. This was more nearly an intramural than submucous growth, and, after incising the capsule, was with much difficulty wrenched from its bed and delivered. The volsella tearing out, strong pressure forceps were found more efficient. Very little hæmorrhage, but great prostration ensued, and she was very sick for several weeks.

Large, Hard Fibroid removed by Abdominal Section and Enucleation. — M. R., single, aged fifty; residence, Licking County, Ohio. Growth of long standing and patient rapidly failing. Operated at her home. Abdominal section revealed universal and strong adhesions. After partially freeing these, the growth was enucleated and the cavity closed by two lines of sutures. A superficial raw surface remaining, intestinal obstruction ensued, and the patient died on the seventh day. The tumor weighed eight pounds.

Subperitoneal Fibroid removed per Vaginam. — E. D., widow, aged thirty-eight; residence, Franklin County, Ohio. This was a case of subperitoneal fibroid which rested in Douglas's pouch, and, being very movable, an attempt was made to remove it through an incision at the vaginal vault. It proved an exceedingly difficult undertaking both to deliver and to get at the pedicle, which was at the fundus. The tumor was of the size of a large Florida orange and very solid. Patient narrowly escaped peritonitis.

Tempting as such cases are, I shall never again attempt this method.

A CASE OF HERMAPHRODITISM.

By GEORGE TULLY VAUGHAN, M. D.,

ASSISTANT SURGEON, UNITED STATES MARINE-HOSPITAL SERVICE.

The following description of an hermaphrodite which recently came under my care is reported on account of its intrinsic interest and in order to add this case to the recorded list of similar monstrosities:

On the 23d of December, 1889, W. R , negro, aged twenty-one years, native of Tennessee, applied to the Marine Hospital Office at Evansville, Indiana, for relief on account of pain in the bowels which had lasted two or three days. The patient appeared to be a boy of fourteen or fifteen years, with beardless face and feminine voice, and by measurement was only four feet and eleven inches in height. In giving an account of his illness, he wept copiously, simply from sympathy for himself, as he was evidently suffering little pain at that time. During the physical examination the mammary glands excited suspicion and were found as well developed, with nipple and areola, as those of a woman. The contour of the pelvis and thighs, and the hair of the pubes *not* extending in a point toward the umbilicus, gave a decidedly feminine appearance, which was rendered incongruous by the presence of a penis. The penis was small, flaccid, two and a half centimetres long, and of proportionate size, with corpora covernosa, corpus spongiosum, glans, corona, cervix, frenum, and gliding prepuce—all perfectly formed, but there was no opening in the organ, and only a slight depression marked the absence of the meatus urinarius. The frenum was unusually developed and extended from the glans downward, dividing the scrotum into two unequal parts for a distance of about four centimetres, where it (the frenum) divided into the labia interna, embracing the meatus urinarius at its point of division. The labia interna extended a short distance below the meatus, which was in all respects like that of the female, and finally blended with the labia externa. The labia externa, thus made out of the scrotum by means of the frenum, were of unequal size, the right being much the larger, and contained two glands of equal size, one a little above the other, the lower gland giving the sensation of a small testicle from which a cord could be easily traced upward to the inguinal canal. The upper gland was quite sensitive to pressure, and the patient volunteered the information that it became swollen and painful once every month, so that she (?) had thought of having it removed, but denied ever having had a bloody discharge from the urethra. She also stated that the penis was capable of erection, that her desire was for women in preference to men, and that she had more than once had connection with women, but experienced little pleasure from the act.

The labia externa were corrugated after the fashion of a scrotum, so that with the thighs close together the appearance was almost exactly that of a true scrotum. On examination *per rectum*, two or three tumors could be felt at about the position of the uterus, but so much pain was produced that the examination could not be completed at that time.

A diagnosis of dysmenorrhœa was made, and three days after the patient's admission to hospital, on December 26th, blood was found on the labia and about the orifice of the urethra, although the patient denied having any knowledge of it. The discharge was scant, but continued for three days.

On the 29th of December a more thorough examination *per rectum* was made. A tumor resembling the uterus was distinctly felt by the finger in the rectum, with two others, one on each side—that on the right being hard, while the one on the left was softer, giving more the sensation of a prolapsed ovary or enlarged Falloppian tube. All three tumors were immovable without pain. A grooved director was then entered in the urethra and passed into the bladder, the finger being retained in the rectum in order to estimate the thickness of the intervening tissues. The director was next withdrawn and re-entered in the urethra, giving the point more of a downward direction, when it evidently entered a different channel—a channel nearer the finger in the rectum—and passed on apparently between the bladder and the rectum to the position of the uterus. On withdrawing the instrument, the groove was found to contain blood. The presence of a penis and one testicle had naturally induced the parents to regard the child as a male, and they had dressed and raised it accordingly. On the other hand, the small size of the person, the feminine voice, the beardless face, the appearance of the mammæ, the monthly swelling of the gland in the inguinal region (undoubtedly an ovary), the presence of a vulva, and the demonstration of a uterus and vagina with proof of menstruation, stamp the individual as beyond all doubt a female.

Her condition was explained to the patient and an operation proposed to make her more like other women, but she declined any interference unless the operation would convert her into a male!

It would be an interesting matter to determine the political rights of this individual if the privilege of voting were challenged, as an ordinary examination would probably result in her being pronounced a male, and this error might or might not be corrected by a subsequent more careful examination.

A similar case and one involving the right of suffrage was that of Levi Suydam, of Connecticut, described in Taylor's *Medical Jurisprudence*, page 717, eighth American edition, quoted from the *American Journal of the Medical Sciences* for July, 1847.

The same person is also described in Tidy's *Medical Jurisprudence*, page 304, vol. i, William Wood & Co., 1882.

The case of W. R. was seen and examined by several members of the profession in Evansville, among them Dr. Glover, Dr. Hodson, Dr. Knapp, Dr. Linthicum, Dr. Minton, Dr. A. M. Owen, Dr. J. E. Owen, and Dr. Walker.

SALOL IN PNEUMONIA.

By GEORGE HENRY BOSLEY, M. D.

Having had a large number of cases of pneumonia, in both adults and children, in the past year, especially during the last three months, I desire to call the attention of the profession to a remedy which has had an extremely good effect in nearly, if not quite, every case occurring in my practice, speedily reducing the temperature and promoting resolution in, to me, an unprecedented manner. I refer to the drug salol (salicylate of phenol), which I have generally given with quinine in moderate doses. To show its happy effect, I will give the histories of my three last cases.

Case I.—M. S., aged twenty, male, United States. Had been feeling ill for five days. Becoming suddenly worse, I was summoned, and found him complaining of pain in right side and over the abdomen, slight cough, sputa gelatinous and streaked with blood. Temperature, 103°; pulse, 100; respiration, 26. Physical exploration showed commencing consolidation of right lower lobe of the lung, dullness on percussion, slight bronchophony and bronchial breathing, and *increased* vocal fremitus. Ordered oil-silk jacket and flaxseed poultice to side, with phenacetine, gr. vijss, followed in an hour by quinine, gr. x, the quinine to be repeated in the morning. The second day, consolidation being complete in lower lobe, with temperature, pulse, and respiration about the same as the evening before, I ordered salol, gr. x, every two hours, continuing the quinine in ten-grain doses night and morning. The third day, temperature 101°, pulse 80, with a few moist râles beginning to be heard over the inflamed portion. The fourth day the temperature had fallen to 100°, and the râle redux well marked. Within a week from the time I first saw him the lung had entirely cleared up, with normal respiratory murmur. No râles heard over the entire lung.

Case II.—M. McL., aged four years, was taken ill the day before I saw her. When called, I found her with a short hacking cough, pain in left side, and temperature 104·5°; pulse, 126; respiration, 40. Physical examination showed some dullness over left lower lobe, crepitant râles on deep inspiration, slight bronchophony, bronchial breathing, and vocal fremitus *increased*. Ordered oil-silk jacket, poultice, and quinine, gr. ij, t. i. d., with salol, gr. ij, every two hours. Second day, temperature, 102·5°; pulse and respiration better, complete consolidation of left lower lobe. Treatment continued. Third day, temperature, 100°; a few moist râles to be heard. Fourth day, temperature, 98·6°; râle redux well marked. The little patient sitting up in bed and playing with her doll; says she is hungry. I discontinued my attendance after the fifth day, as the lung had almost entirely cleared up.

Case III.—I. G., aged seven, male. He had had a hard cold for nearly a week, commencing as a coryza; the symptoms suddenly became aggravated. I found him slightly hoarse, a frequent cough, and very much stuffed up; large and small mucous râles over both lungs; no dullness on percussion. Temperature, 102·5°. Ordered quinine, two grains four times a day, and an expectorant mixture of ammonia mur. with tincture of aconite root. The second day I found complete consolidation of middle and lower lobes, right lung, and a few crepitant râles in lower lobe of left lung on deep inspiration. Temperature, 102·5°. Ordered oil-silk jacket and flaxseed poultice, with salol, gr. iij, every three hours. Quinine continued as before. Third day, temperature, 103°; pulse, 120; respiration very rapid; complete consolidation of left lower lobe; right lung in about same condition as yesterday. Ordered the quinine to be given every four hours and salol every two hours, with whisky, ʒ j, every three hours, and beef juice hourly, and milk *ad libitum*. Fourth day, temperature, 102·5°; pulse, 120; respiration, 46. A few moist râles beginning to be heard in right lung. Left lung, no change from the day before. Fifth day, temperature, 101°; râle redux fully established in right lung and beginning in the left. Sixth day, temperature, 99°; pulse, 100; râle redux fully established in left lung also. After this, both lungs rapidly cleared up, and in twelve days from the pneumonic seizure he was dressed and out of bed, but, taking cold, had an attack of exudative pleurisy, covering both lungs where they had been inflamed. From this attack he is now recovering, though not quite well.

While on this subject, I want to again call attention to the presence of *increased* vocal fremitus in every case of pneumonia as being *the* diagnostic point between it and a large pleuritic effusion.

346 West Fifty-eighth Street.

Correspondence.

LETTER FROM WASHINGTON.

The Medical Society of the District of Columbia.—Dr. N. S. Lincoln.—The National Guard of the District.—The late Dr. Dunn.—The Koch Treatment.—The Government Hospital for the Insane.—The Death of Dr. E. L. Corbin.—Meetings of National Associations.—The Woman's Medical College of the Johns Hopkins University.—The Columbia Hospital.—The Cosmos Club.—A Reception to Dr. Kleen, of Carlsbad.—Scarlet Fever and Diphtheria.

Washington, *January 19, 1891.*

At the last annual meeting of the Medical Society of the District of Columbia, Dr. D. W. Prentiss was elected president for the ensuing year, and Dr. T. C. Smith corresponding secretary.

Dr. N. S. Lincoln recently celebrated the anniversary of his wedding by giving a dinner to a few friends. Ex-Surgeon-General and Mrs. W. A. Hammond and Dr. Murray were among the guests present.

Dr. George Henderson, surgeon of the Second Regiment, National Guard, has been promoted to be Surgeon General of the District National Guards, in place of Dr. J. O. Stanton, resigned.

Services were held commemorative of the late Dr. J. W. Dunn on Sunday, the 11th inst. Dr. Dunn is said to have contracted his last illness through attendance upon a case of malignant diphtheria.

The Koch treatment has been on trial here by Dr. George L. Magruder in his hospital service for the last three weeks, but no publication of results has yet been made. It is said that one of the patients has become discouraged and returned to his home. No new patients are to be taken until the results have been fully established on the other patients. The Marine Hospital Bureau has taken care to send one of the most accomplished bacteriologists of the service, Dr. Kinyoun, to Berlin. He is to enter the Koch laboratory regularly for general instruction, and remain for three months, with the view of obtaining more definite information than could be gained by a cursory visit and attendance upon general clinics. The courtesies of the Government have been extended to Dr. Kinyoun, and it is not doubted at the Bureau that his mission will be entirely successful.

Dr. W. W. Godding, the superintendent of the Government Hospital for the Insane, has published his annual report to the Secretary of the Interior. From the report it is seen that there were remaining on June 30, 1890, 1,505 inmates, of whom 350 were females. The reason for the great preponderance of males is that the institution receives all the insane from the various Volunteer Soldiers' Homes throughout the Union. Of the 726 patients from civil life, the males and females are about equal. There were admitted during the year 345. There were 97 recoveries and 140 deaths. One thing is shown in this report that is deserving of considerably more attention than is generally given to the subject, and that is the fact that, of 7,856 cases treated in the institution, deducting 275 cases where the nativity is unknown, there were 3,109 foreign-born patients, or a ratio of over 40 per cent. A new infirmary for the sick has been built during the year and very appropriately named the Toner Building. The current expenses of the institution are about $325,000 per annum. A feeling tribute is paid in the report to the memory of the late Dr. Charles H. Nichols, who was the first superintendent of the hospital, and who died at Bloomingdale a year ago. The report also appropriately notices the death of Dr. Samuel R. Means, the youngest member of the hospital staff. The pathological records close the little pamphlet. These comprise accounts of the post-mortem examinations in twenty-two cases of chronic epileptic mania, and seventeen cases of chronic epileptic dementia. The records are admirably stated, and the photographic representations of the diseased brains are excellent.

Dr. E. L. Corbin, who had retired from practice for some years owing to physical disabilities, died on Friday last. The deceased was surgeon of the 152d New York Volunteers during the civil war, and made an excellent record.

No fewer than eight national associations have been in session in the capital during the past week. The American Society of Geologists, the National Food and Dairy Association, and the National Council of Women were among the most largely attended. At the Food and Dairy Association a resolution was introduced by Mr. Cabanne, of St. Louis, which was adopted, to the effect that the best way to prevent the adulteration of milk in towns and cities was by statute licensing all milk-dealers, so that the health authorities of the State might keep them under control.

A meeting was held at the Executive Mansion last week of a committee of ladies having in hand the raising of a fund for the establishment of a Woman's Medical College in connection with the Johns Hopkins University in Baltimore. The *Star* says:

"Mrs. Harrison presided. There were twenty-seven of the forty-seven members of the committee present. This was the first meeting, the reports showing a total subscription of money amounting to about $100,000. Fully $400,000 more will be needed, and, as it will be necessary for the fund to be complete by the 1st of March, the committee proposes a very active campaign. Mrs. B. H. Warder is treasurer of the committee and Miss Tuckerman secretary. The buildings required for the college and hospital have been erected, but there is no fund from which to pay salaries to professors. It was decided at the meeting this morning to make an appeal to the generosity of citizens through the public press."

The Columbia Hospital board has been reorganized in consequence of the retirement of Dr. P. J. Murphy. Dr. Scott has been appointed resident physician, and Dr. J. Taber Johnson and Dr. J. Ford Thompson have been made gynæcologists.

Surgeon-General J. M. Browne, of the navy, was elected president of the Cosmos Club at the last annual election, and Dr. R. T. Edes one of the Board of Directors.

Professor Samuel C. Busey gave a reception to Dr. Kleen, of Carlsbad, on Friday, the 16th.

Health Officer Townshend has asked for an additional appropriation of $5,000 for the enforcement of the law for the prevention of the spread of scarlet fever and diphtheria. It is considered nearly certain that there are fewer cases in the District now than at the corresponding period last year, and yet there were about a hundred cases reported to the Health Officer in the first two weeks. Diphtheria has been attended with much greater mortality than scarlet fever.

THE
NEW YORK MEDICAL JOURNAL
A Weekly Review of Medicine.
Published by D. Appleton & Co.
Edited by Frank P. Foster, M. D.

NEW YORK, SATURDAY, JANUARY 31, 1891.

THE VITAL STATISTICS OF THE JEWS IN THE UNITED STATES.

The Census Office has just published a bulletin containing the partial results of a special inquiry made under the direction of Surgeon John S. Billings, of the army, regarding the vital statistics of some ten thousand Jewish families in this country. We are informed that, as a rule, the schedules were replied to by families who had been in this country five or more years on December 31, 1889; 10,618 families replied to the circular, constituting a population of 60,630 persons. Of these families almost 23 per cent. resided in New York, Brooklyn, and the immediate vicinity; 42 per cent. resided in the Eastern States on the Atlantic coast, including those in and near New York; 12 per cent. resided in the Mississippi Valley; 23 per cent. in the region of the great lakes; almost 13 per cent. on the Gulf coast; and 7 per cent. in Western States and on the Pacific coast. The proportion of persons in the families in each of these geographical divisions to the total number of persons is about the same as the foregoing, a fact that would seem to substantiate the reliability of the tables.

The results obtained in the rates of deaths, marriages, and births are remarkable; the general average death-rate is 7·11, the birth-rate 20·81, and the marriage-rate 7·4 to 1,000 of population. The death-rate among the native-born is 9 15, and among the foreign-born 7·61; for married women between the ages of twenty-five and thirty five it is almost double the death-rate among single women, but over thirty-five years of age the death rate is greater among spinsters than among married women. The Jews suffer a greater loss than their neighbors by deaths from diphtheria, diarrhœal diseases, diseases of the nervous, circulatory, and urinary systems, diseases of the bones and joints, and diseases of the skin; while their mortality is less from tubercular diseases, scrofula, tabes, and hydrocephalus. Another fact is that, while the proportion of males to females, 109·53 to 100, is greater than among the general population, 103 57 to 100, the average death-rate among the females is 7·16, while among the males it is 6·47.

One is almost tempted to question the verity of these figures, for it gives the Jews a mortality-rate that is about half that of the general population of most of our municipalities, and the comparison is a fair one, as the majority of the Jews are residents of cities and towns. It is inexplicable that the mortality among the native born should be greater than among the foreign-born. It is quite probable that the Jewish wife is as averse to incurring the penalties of maternity as her Gentile sister, but it would seem that, if these figures do her justice, her fertility is considerably less than that of the women about her. Again, it has been an accepted impression that this race was prone to contract domestic obligations, and yet the marriage-rate is less than half that of the surrounding population, and the average age at marriage is greater among the Jews; this low marriage-rate and increased marrying age influence the low birth-rate.

The proportion of insane, idiotic, blind, deaf, and deformed is so much less than that of the surrounding population that the learned compiler doubts the accuracy of the figures, particularly because in Europe the proportion of these classes among the Jews is greater than among other races.

In a study of the vital statistics of this race in Europe, Mr. J. Jacobs, in the *Journal of the Anthropological Institute* for 1885–'86, concludes that Jews have a smaller marriage-rate, birth-rate, and death-rate than their neighbors; results that confirm those herein reported. If the data that have been obtained are correct, with a low marriage-rate, a decreasing birth-rate, and an increasing death-rate, the American Jew is living on a basis that will tend to ultimate extinction.

PROTECTIVE INOCULATION AGAINST DIPHTHERIA.

Dr. von Schweinitz and Dr. Gray, of Washington, have contributed a note to the *Medical News* in which they state that they have discovered a substance that renders guinea-pigs proof against diphtheria. The disease germ with which these experimenters have been at work is the bacillus of Klein. This germ is regarded by them as probably identical with the Klebs-Loeffler bacillus. They do not explain the details of their discovery, but merely state that "a chemical substance" has been obtained that renders the guinea-pigs treated with it insusceptible to diphtheria upon the subsequent introduction of strong diphtheritic virus into the circulation of those animals, while the test guinea-pigs died within forty-eight hours after infection. These investigators further state their belief that the experiments that are now being made will show that their discovery will be available for the prevention and control of diphtheria in man. They also express the hope that future experiments in the same method will discover a series of protective-inoculation substances for tetanus, typhoid fever, and other infectious diseases, but it will require a long period of experimentation to demonstrate such discoveries conclusively. As Dr. von Schweinitz is an expert laboratory worker, best known perhaps from his hog cholera immunity experiments, we shall await with some impatience a full description of his diphtheria prevention method. Meanwhile others are working in the same field, such as Koch, Fraenkel, Behring, and Katasato, also a bacteriologist at the Pasteur Institute. It is reported that Koch is giving as much time to the study of a preventive injection for diphtheria as his other labors will permit. Fraenkel, at the Koch laboratory, has developed an albuminose which is efficient in regard to guinea-pigs infected with diphtheria by subcutaneous injection, but inoperative in animals that are infected through the mucous membrane. This is only a partial success, but one that indicates that his line of research is in the right direction. Behring, also at the Koch laboratory, has still a different process, namely, by the application of an inorganic substance, which in the case of diphtheria is peroxide of hydrogen, while in tetanus trichloride of iodine in solution is employed, each in its respective application rendering infected animals insusceptible. Behring considers that this immunity is based on an antibacterial power communicated to the serum of the blood, without regard to the corpuscular elements. The experiments have gone further and proved that the serum of the blood of animals made insusceptible will, when injected into other animals, confer immunity on the latter. The extravascular blood-serum, as well as the blood, of these same protected animals also has a bacteria-killing power. The permanence of the immunity is variable, for it has been found that some of the animals after a time lose their power of resisting the virus after its repeated use and in increased doses. The author, in concluding his report, aptly quotes a line from Goethe, where Mephistopheles addresses to Faust the words:

> "Das Blut ist ein gans besonderer Saft."

One other preventive measure, quite unlike those referred to above, has been resorted to a few times in the human subject; we refer to inoculations of erysipelas in the treatment of diphtheria. This has been done by Babtschinski, who observed that the intercurrence of erysipelas resulted in the saving of persons severely ill with diphtheria. He experimented on fourteen patients, with success in twelve; the other cases of diphtheria occurring in the same families were fatal without exception. In the two unsuccessful cases the patients appeared to succumb before the erysipelatous inoculations had had time to become operative.

MINOR PARAGRAPHS.

PYOCTANIN IN EYE DISEASES.

An editorial writer in the *Medical News* has used this drug quite freely and has found it of excellent service in diseases of the lacrymal passages, obtaining results from it that have not followed the use of any other drug in his hands. He coincides with Dr. G. M. Gould in saying that the efficacy of pyoctanin in chronically perverted conditions of the lacrymal apparatus is especially worthy of praise. It is also a good application in the various types of inflammation of the conjunctiva associated with the formation of pus, but not better than some others that are already in the position of standard remedies. Both Gould and Cheatham are in accord that the remedy has been of more than usual service in muco-purulent inflammation of the tear-sac, but they differ in their estimates of its value in trachoma. In that disease Gould thinks the drug without appreciable effect, and possibly injurious in some instances owing to its measurable desiccating influence. Dr. Cheatham, on the other hand, has reported that some cases of trachoma, unrelieved by the ordinary remedies, showed marked improvement under the daily application of the pyoctanin pencil; he has also found that the milder forms of conjunctival trouble yield readily under solutions of that drug. One of Cheatham's cases was interesting as showing that Stilling's contention that dilatation of the pupil followed the use of pyoctanin was correct. In a case of interstitial keratitis where atropine alone had failed to produce its physiological effect upon the pupil it was found that the desired mydriasis was effected when the two drugs were used in conjunction. With regard to the trials of the drug made by Dr. Gould, it should be added that they were made at the Philadelphia Hospital, as reported in the *University Medical Magazine* for December, and that they are particularly valuable from the fact that wherever possible the observer treated one eye with pyoctanin and the other with either nitrate of silver or bichloride of mercury.

ADDITIONS TO THE BRITISH PHARMACOPŒIA.

According to the *British Medical Journal*, among the articles that will appear as "additions made in 1890 to the Pharmacopœia of 1885" are antipyrine and lanolin; but they will not be admitted under those names, as the latter are registered trade-marks. Antipyrine will be designated as "phenazone," and lanolin as "adeps lanæ hydrosus." These names will be strange for some time to come, but they have the advantage of enabling the prescriber to avoid the use of terms which, although more familiar, are as yet the special property of particular firms of manufacturers. Among the other drugs about to be admitted to official recognition are acetanilide, saccharin, oil of cade, paraldehyde, phenacetine, strophanthus, and sulphonal. A small volume will presently be issued by the Committee of Revision, containing lists of the articles and preparations lately added, to be published by Spottiswoode and Co., at a cost of a shilling a copy. The editor of the *British Medical Journal*, who has had an opportunity to review an advance copy of this book, writes: "During the five years which have elapsed since the publication of the last edition of the *Pharmacopœia*, the number of new drugs which have been introduced has been unprecedented in the history of medicine. The great majority of these new remedies have been found wanting, many are still on their trial, and a few have now had the stamp of presumably permanent favor conferred upon them by being included in the *Pharmacopœia*." Dr. Richard Quain is the responsible head of the Pharmacopœia Committee of the General Medical Council having in charge the changes that are made from time to time in the British official text-book of remedies.

THE ADMINISTRATION OF MORPHINE BY THE NOSTRILS.

Dr. C. H. von Klein, of Dayton, Ohio, offered at the recent meeting of the American Rhinological Association, at Louisville, a report concerning a hundred cases wherein morphine had been administered through the mucous membrane of the nose. He found this method a satisfactory substitute for the ordinary ways of administering the drug, when the latter were objectionable. The effects of the drug are marked, prompt, and uniform. The sense of taste is undisturbed. This method requires much smaller doses than when morphine is taken by the mouth, and not larger ones than when it is given hypodermically. The drug is simply snuffed into the nasal chambers after the manner of snuff-takers. The dose is divided into two equal portions—one for each nostril. The process of absorption must begin almost instantly, so promptly do the effects of the medicine manifest themselves. Sneezing is sometimes produced, but not as a rule. When this takes place, Dr. von Klein regards it as an indication that the morphine is of poor quality. To this view, however, a very decided objection is raised by a writer in the *Pharmaceutical Record* for January 5th, to the effect that morphine is almost always of good quality. He desires to emphasize the fact that there is probably no pharmaceutical product so uniform in its constitution as morphine, and that he knows of no poor quality of that drug being offered by any American manufacturer, or, in fact, by any foreign maker.

JACKSONIAN EPILEPSY FOLLOWING INFLUENZA.

Albrecht Erlenmeyer reports the following case in the *Berliner klinische Wochenschrift*, 1890, No. 13: A physician, twenty-five years old, of previous good health, was taken ill on January 5th with the typical symptoms of neuro-gastric influenza. His family history was negative. He complained until the end of the month of sleeplessness, headache, pains in the legs, anorexia, constant eructations of gas, and constipation. On the 1st of February, while eating, he noticed a feeling of numbness in the left hand and forearm. This was followed by muscular twitchings in the same region and complete loss of consciousness. After the attack, which lasted from two to three minutes, vomiting set in. Small hæmorrhagic spots were seen on various parts of the body, as well as minute hæmorrhages into the conjunctivæ. On the 8th there was a similar attack, with strong convulsive movements of the whole left arm, but without loss of consciousness. It lasted three minutes. The facial muscles and the power of speech were undisturbed. After the attack there was vomiting, which was frequently repeated during the next few days. Malaise and disturbed sleep continued until the 18th; then there was complete recovery. Erlenmeyer considers the case one of Jacksonian epilepsy, and believes that the preceding influenza was the chief factor in its causation. He thinks it probable that the convulsions were due to capillary hæmorrhages into the cerebral cortex similar to those observed in other parts of the body.

THE RADICAL CURE OF UMBILICAL HERNIA IN CHILDREN.

The following is Dr. Nota's simple manner of treating umbilical hernia in children, as given in the *Gazzetta degli ospitali* for November 23, 1890: His method is a modification of that recommended by Desault. The hernia being reduced and the umbilical ring closed by the finger, the sac, emptied of its contents, is held firmly by an assistant. Around its base is thrown a ligature of rubber tubing an eighth of an inch in thickness. Three or four turns are made with the tubing, held very tense and as close as possible to the abdominal wall. The two ends of the tube are tied together and the knot is secured with a ligature of silk. The whole is then covered with a little cotton and the children are left entirely free in their movements. After ten or twelve days, according to the size of the hernia, the sac falls off at the level of the ligature, leaving a small round opening of perhaps an eighth of an inch in diameter. This wound is dressed with iodoform and carbolized cotton, and closes in four or five days, leaving a smooth, regular cicatrix which prevents any return of the hernia. Dr. Nota has used this method with eighteen children, and effected a perfect cure in them all.

THE ANILINES IN THE TREATMENT OF TUBERCULOSIS.

Before the Medical Society of the County of New York, at the meeting of Monday evening last, Dr. C. E. Bruce described the use he had made of preparations of aniline. He had instituted a series of experiments with the various kinds, and had demonstrated their efficacy in causing the destruction of pyogenic membranes and their action upon ulcerated surfaces. This had led him to consider the possible utility of the anilines in the treatment of tuberculous cases. As the preparations could not be well given by the stomach and were unsuitable for hypodermic use by reason of their staining qualities, he had made use of aniline dissolved in sterilized olive oil. Selecting a number of patients suffering with pulmonary tuberculosis, whose cases he considered suitable for the trial, he had undertaken a series of hypodermic injections with the mixture, gradually increasing the dose to what appeared to be the point of physiological tolerance, which seems to have been, in one case narrated in detail, twenty drops of a twenty-per-cent. solution. The injections do not appear to have been followed by any immediate and marked reaction, but rather, according to Dr. Bruce's observations, to have resulted in a general amelioration of many of the more urgent symptoms, such as the stridulous cough. No reduction in the number of bacilli was demonstrated, though the character of the sputum was decidedly changed, for it became loose and frothy instead of mucoid and ropy. There was marked relief to the dyspnœa, also some increase in weight, during the administration of the remedy. Dr. Bruce feels encouraged to further investigation in this direction, and believes that, if the use of the anilines in this way has no more pronounced future in the treatment of tuberculosis, it will be found of inestimable value in palliating the distressing characteristics of the later stages of this disease.

A LOW ESTIMATE OF EDITORIAL ARTICLES.

The *Medical News*, of Philadelphia, in its issue for January 17th, announces that its editorial pages will not hereafter be regularly used for editorial writing, but will be given up to selections from foreign medical literature, but "without the laborious verbosity of the French and German writers." The *News* says that that space "is often an excuse for foisting upon a subscriber much useless material, and for this reason the pages *usually so employed*" [the Italics are ours] "in the past in the *News* will be taken up with notes on current literature." That this is conscientiously stated there can be no doubt, but, viewed as an arraignment of the utility of editorial writings, regularly and constantly worked up, there is large room for difference of opinion.

CONVULSIVE TIC OF THE SOFT PALATE.

Dr. Dieulafoy (*La France médicale*, November 14, 1890) recently showed to the Medical Society of the Hospitals of Paris a patient affected with convulsive tic of the uvula and the soft palate. The patient was a gendarme, forty-two years old, with a negative family history and with no symptoms of hysteria. The affection was of two years' duration, and caused no inconvenience beyond a slight difficulty in articulation.

CAMPHO-PHÉNIQUE.

The exact composition of the copyrighted article known as campho-phénique, or *phenol camphoratum*, has not been published by the firm that manufactures it. The *Western Druggist* offers a suggestion that it is a simple mixture of equal parts of crystallized carbolic acid and pulverized camphor. The use of campho-phénique seems to be quite general in the profession of our Western cities, and it is not unknown in this region.

DR. SHAFFER'S LECTURES ON ORTHOPÆDIC SURGERY.

The trustees of the New York Orthopædic Dispensary and Hospital announce that the fourteenth annual course of lectures, by Dr. Newton M. Shaffer, will begin on the 3d of February. These lectures are free to practitioners and students of medicine, and ought to be largely attended. For particulars, we would refer the reader to our advertising columns.

ITEMS, ETC.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported during the two weeks ending January 27, 1891:

DISEASES.	Week ending Jan. 20.		Week ending Jan. 27	
	Cases.	Deaths.	Cases.	Deaths.
Typhus fever..............	0	0	0	0
Typhoid fever..............	8	3	15	2
Scarlet fever................	135	17	156	17
Cerebro-spinal meningitis.....	2	1	3	3
Measles.....................	380	24	482	28
Diphtheria..................	95	21	108	34
Small-pox...................	0	0	0	0
Varicella..................	13	0	27	0
Whooping-cough...........	1	0	2	0

The American Electro-therapeutic Association held its first meeting, for organization, at the New York Academy of Medicine, on Thursday, January 22d. Officers were elected as follows: President, Dr. G. Betton Massey, of Philadelphia; vice-presidents, Dr. W. J. Morton and Dr. A. H. Goelet, of New York; secretary, Dr. W. H. Walling, of Philadelphia; treasurer, Dr. George H. Rohé, of Baltimore; councillors, Dr. Horatio R. Bigelow, of Philadelphia, Dr. F. H. Martin, of Chicago, Dr. W. F. Hutchinson, of Providence, Dr. Frederick Peterson, of New York, and Dr. C. D. Palmer, of Cincinnati.

The Medical Society of the County of Erie held its annual meeting on the 13th inst. Officers for the ensuing year were elected as follows: President, Dr. E. C. W. O'Brien, of Buffalo; vice-president, Dr. W. H. Gail, of East Aurora; secretary, Dr. E. H. Long, of Buffalo; librarian, Dr. Lucien Howe, of Buffalo.

The Medical Microscopical Society of Brooklyn.—At the next meeting, to be held on Wednesday evening, February 4th, at the Hoagland Laboratory, Dr. Jephar will read a paper on The Pathology of Disseminated Cerebro-spinal Sclerosis.

The New York Academy of Medicine.—At the recent annual meeting of the Section in Obstetrics and Gynæcology, Dr. Egbert H. Grandin was re-elected chairman, and Dr. Irwin H. Hance secretary.

An exclusively Kochian Journal.—A new journal appeared in Berlin on January 1st, devoted to the Koch treatment and called the *Central-Zeitung für das Koch'sche Heilverfahren.* It appears to be quite as much addressed to the public as to the profession. It is stated that Professor Koch is not connected with the venture.

The Nursery and Child's Hospital.—This useful and popular institution held its annual meeting on January 8th. The report of the treasurer showed a good financial status, for, although the disbursements for 1890 reached $121,655, there still remained an unexpended balance of nearly $12,000.

The Red Cross Society of Brooklyn.—The District Nurse of the Red Cross Society of Brooklyn is in readiness to answer calls for her services. At the request of the physician attending the case, she will visit the sick poor, carry out instructions for treatment or nursing, and in every possible way co-operate with and assist the attending physician. Her services are free, and intended only for those who are unable to employ a nurse. Calls from any part of Brooklyn may be sent, by postal or telephone, to the Directory for Nurses, 356 Bridge Street, Brooklyn, N. Y.

Army Intelligence.—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from January 11 to January 24, 1891:*

Snyder, Henry D., First Lieutenant and Assistant Surgeon, is, by direction of the Secretary of War, relieved from duty at Fort Reno, Oklahoma Territory, and will report in person to the commanding officer, Camp Guthrie, Oklahoma Territory, for duty at that station, relieving Phillips, John L., Captain and Assistant Surgeon. Captain Phillips, on being so relieved, will report in person to the commanding officer, Fort Reno, Oklahoma Territory, for duty at that station. Par. 16, S. O. 11, A. G. O., Washington, D. C., January 14, 1891.

Ives, Francis J., Captain and Assistant Surgeon, is, by direction of the Secretary of War, relieved from temporary duty at Pine Ridge Agency, South Dakota, to take effect when his services can be spared by the commanding officer of the troops there stationed, and will then return to New York city and resume his leave of absence. Par. 9, S. O. 17, A. G. O., Washington, January 21, 1891.

Gardner, Edwin F., Captain and Assistant Surgeon, is, by direction of the Secretary of War, relieved from duty at Pine Ridge Agency, South Dakota, and will proceed without delay to Fort Riley, Kansas, and report for temporary duty to the commanding officer of that post. Par. 10, S. O. 17, A. G. O., Washington, January 21, 1891.

Promotions.

Harris, Henry S. T., Assistant Surgeon, January 5, 1891, and Wood, Leonard, Assistant Surgeon, January 5, 1891, to be Assistant Surgeons with the rank of Captain, after five years' service, in accordance with the act of June 23, 1874. A. G. O., Washington, D. C., January 12, 1891.

Naval Intelligence.—*Official List of Changes in the Medical Corps of the United States Navy for the week ending January 24, 1891:*

Persons, Remus C., Surgeon. Ordered to the U. S. Steamer Concord. February 10th.

Society Meetings for the Coming Week:

Monday, *February 2d:* New York Academy of Sciences (Section in Biology); German Medical Society of the City of New York; Morrisania Medical Society (private); Brooklyn Anatomical and Surgical Society (private); Utica, N. Y., Medical Library Association; Boston Society for Medical Observation; St. Albans, Vt., Medical Association; Providence, R. I., Medical Association; Hartford, Conn., City Medical Association; Chicago Medical Society.

Tuesday, *February 3d:* Medical Society of the State of New York (first day—Albany); New York Obstetrical Society (private); New York Neurological Society; Elmira, N. Y., Academy of Medicine; Buffalo Medical and Surgical Association; Ogdensburgh, N. Y., Medical Association; Hampden, Mass., District Medical Society (Springfield); Hudson, N. J., County Medical Society (Jersey City); Androscoggin, Me., County Medical Association (Lewiston); Baltimore Academy of Medicine.

Wednesday, *February 4th:* Medical Society of the State of New York (second day); Society of the Alumni of Bellevue Hospital; Harlem Medical Association of the City of New York; Metropolitan Medical Society (private); Medical Microscopical Society of Brooklyn; Medical Society of the County of Richmond, N. Y. (Stapleton); Penobscot, Me., County Medical Society (Bangor); Bridgeport, Conn., Medical Association.

Thursday, *February 5th:* Medical Society of the State of New York (third day); New York Academy of Medicine; Society of Physicians of the Village of Canandaigua, N. Y.; Brooklyn Surgical Society; Boston Medico-psychological Association; Obstetrical Society of Philadelphia; United States Naval Medical Society (Washington).

Friday, *February 6th:* Practitioners' Society of New York (private); Baltimore Clinical Society.

Saturday, *February 7th:* Clinical Society of the New York Post-graduate Medical School and Hospital; Manhattan Medical and Surgical Society (private); Miller's River, Mass., Medical Society.

Letters to the Editor.

THE PASSAGE OF A LARGE BILIARY CALCULUS THROUGH AN UMBILICAL FISTULA.

Wellsburg, N. Y., *January 21, 1891.*

To the Editor of the New York Medical Journal:

Sir: On November 1st I was called to see an old lady, aged eighty-three, and found her suffering from severe pain, radiating from the umbilicus to the back and thighs, with her strength nearly exhausted for the want of sleep, which she had been unable to get for several nights on account of the constant pain. The bowels were constipated; she had a stool about once in three days, attended by no discomfort. There was no evidence of jaundice. Her appetite was poor. Physical examination revealed a local, circumscribed abscess around the umbilicus, which communicated externally by an umbilical fistula, through which was discharging a purulent fluid. At about an inch and a half above and to the right of the umbilicus was a hard, small tumor, very sensitive to the touch. Hot applications were ordered, with morphine to control pain, and a mild laxative.

The local conditions described remained about the same for a week, when suddenly, at night, she was seized with intense pain confined to the umbilical region. She became collapsed, and a biliary calculus, measuring four inches in circumference, passed through the umbilical fistula.

At this date the fistula has entirely closed, there is complete absence of any local tenderness, the bowels are regular, and she is enjoying comparatively good health.

La Rue Colegrove, Ph. G., M. D.

A CASE OF CONGENITAL ENCEPHALOCELE.

Point Pleasant, N. J., *December 22, 1890.*

To the Editor of the New York Medical Journal:

Sir: I should like to report the following case, which I believe is a rather unusual one. It is the first of the kind that I have seen at any rate, and I should like to have the opinion of the readers of the journal concerning it.

The case is as follows: On November 28th I was called to see a male child seven weeks and two days old. The history of the case up to that time was this: It was a first child, weighing five pounds and a half, and the labor was comparatively easy. The mother was attended by a physician from a neighboring town. Nothing unusual was found or suspected until after the accouchement was finished, when the physician told the family that the child was a monstrosity, and advised that it be laid away to die.

I heard about it through garbled reports of neighbors, but had no opportunity of satisfying myself as to what it was until the above-mentioned date, when I found that the parents had declined to lay it away. It had not seemed able to nurse, but had been fed and had thrived fairly up to the day before, the 27th, when it refused to eat, had sinking spells, and seemed to have a cold, and for that reason they had sent for me. Aeration seemed to be very imperfect; while I sat by it it stopped breathing and became blue and cold, and I thought it was going to die then, but in a few moments it was all right again. On examination, I found that there was no forehead, or at least the forehead retreated abruptly from the brows, so that the head was almost flat from the brows back nearly to the posterior fontanelle. The parietal bones lacked half an inch or more of meeting in the median line. At the posterior fontanelle I found a tumor which protruded through the fontanelle an inch and a half, and which was two inches in diameter. It seemed to consist of two distinct pedunculated tumors. The second, or latest to develop, partially surrounded the original tumor, which was three quarters of an inch in diameter by half an inch long, with nearly straight sides, and the top slightly oval. If you will take an inflated ring pessary of the corresponding size, lay it over the posterior fontanelle, and place in the concavity presenting a button half an inch thick by three quarters of an inch in diameter, with slightly bulging sides and convex top, you will have it exactly. The button represents the original tumor, the pessary representing the secondary tumor, which was gradually extruded.

The tumor was only covered by the brain membranes, and consisted of brain tissue. I found that the oldest physician in the neighborhood had been called and had expressed the opinion that the child would live and that the tumor might be cut off.

I gave a very unfavorable prognosis, stating that, although it might live some time, yet my opinion was that it might be expected to die at any minute.

I was called on the next night to issue a death certificate, the child having died on the 29th, at 5.30 p. m., less than thirty hours after I saw it. It had continued having the fainting spells, and had had convulsions before it died.

I want to ask some questions which seem to me pertinent, but which I can not answer definitely from my own experience, nor can I find much of anything on the subject in the literature at my command.

1. Was the hernia intra-uterine or produced by pressure during labor?

2. Could it have been reduced immediately or closely following delivery? I believe it could, but at the time I saw it the least pressure caused syncope.

3. Would one have been justified in ligating and excising the tumor? I think not.

4. The hernia reduced, would not proper and persistent manipulation have restored the forehead and head to their proper shape? I believe it would.

5. Before there was any sign of trouble, would not an operation for reduction, by enlarging the opening in the integument and drawing apart the bones or, failing in that, by enlarging the posterior fontanelle, have been justifiable? Would it not have given a good chance for recovery and for a perfect child? I believe it would.

6. Would the same operation have been justifiable at the time I saw the case? I confess I never thought of it until writing this history.

7. Was it a monstrosity? I believe not, but that it was only an unusual elongation of the crown and occiput, with a reducible hernia from the posterior fontanelle.

8. Was the physician in attendance justifiable in ordering the child laid away to die? I believe not.

I should state that the woman was said to have laced excessively nearly up to the time of her confinement, and the sympathizing(?) neighbors allege that as the cause of the accident. I can see no connection.

I should like to hear from any one having had experience with such cases.

F. Whitaker, M. D.

THE GONOCOCCUS OF NEISSER AND ARTHRITIC EFFUSIONS.

New York, *January 12, 1891.*

To the Editor of the New York Medical Journal:

Sir: In a recent issue of the Journal Dr. Kammerer has been kind enough to honor me by a discussion of some notices of his work which appeared in a short article written by me upon Arthritis in Children suffering from Vulvo-vaginal Inflammation of probable Gonorrhœal Nature. I am surprised at the dissatisfaction expressed by Dr. Kammerer. In so short an article as mine it was manifestly impossible for me to go into the details of his valuable paper upon Gonorrhœal Inflammation of the Joints. The fate of the reviewer is to attempt a condensation of ideas. In this process he may unwittingly place others in a light unsatisfactory to them. I did not intend to quote literally from Dr. Kammerer's article, but tried to give in a very few words an idea as to the drift of thought in the same. I have reviewed my work again in this direction and find no reason to modify my original statement. I may have made the work of Dr. Kammerer appear too "easy," when in truth we all know how laborious and painstaking laboratory work is. So this irritating little word has crept into my *résumé* without my being conscious of the fact that it was to wound the feelings of my esteemed colleague. I hope he will pardon this oversight, for such it really is. "Infection of the urethra" in my article should have read "infection from the urethra"; it was a typographical error. The days and dates are taken from cases cited in Dr. Kammerer's article. To Dr. Kammerer remains the honor of having been one of the first workers in this field, and he has little cause to deplore lack of facilities which perhaps at that time did not exist. To the esteemed readers of the Journal must be left the option, whether they will not honor us both by reading our work and drawing conclusions for themselves. Henry Koplik, M. D.

SEBORRHŒAL WARTS.

Hamburg, Germany, *December 29, 1890.*

To the Editor of the New York Medical Journal:

Sir: In the Report on the Progress of Dermatology, in your issue for December 6th, your reporter writes of Dr. Pollitzer's paper on Verruca Seborrhoica that, "as this paper emanates from Unna's laboratory, we are probably justified in reading Unna written between the lines." The facts in the case are somewhat at variance with the inference. The cases were indeed met with in my clinic, and the histological researches were made in my laboratory, but the new histological facts were ascertained by Dr. Pollitzer himself, and the conclusions drawn from them were purely his own. Whoever will study the paper thoroughly will soon find that I can by no means subscribe to all the conclusions in it, and that is the best proof that Dr. Pollitzer was its sole author. In justice to Dr. Pollitzer, I beg that you publish this correction in your esteemed journal.

P. G. Unna, M. D.

Proceedings of Societies.

MEDICO-CHIRURGICAL SOCIETY OF MONTREAL.

Meeting of November 10, 1890.

The President, Dr. F. J. Shepherd, in the Chair.

Perityphlitis originating in Syphilitic Ulceration of the Intestine.—Dr. Wyatt Johnston showed specimens of deep ulceration of the large intestine from a patient who had had constitutional syphilis. One of these ulcers was situated at the upper extremity of the rectum at its junction with the sigmoid flexure. The rectum in this case descended into the pelvis on the right side, and an extensive inflammatory exudation about the base of the ulcer had resulted in an adhesive perityphlitis. The vermiform appendix was lying over the brim of the pelvis imbedded in a mass of inflammatory fibrous tissue as large as an egg. The mucosa of the appendix was intact. The case also showed syphilitic osteitis of the tibiæ and cranium. It was of special interest in connection with the present tendency to regard all cases of perityphlitis as originating in the appendix, especially when operative interference was indicated. He could not find any similar case recorded. The fact that the rectum lay on the right side was apparently the explanation of the condition found.

Round Ulcer of the Stomach giving Rise to Sudden Fatal Peritonitis.—In another specimen shown by Dr. Johnston, a round ulcer of the stomach had penetrated the peritonæum midway between the pylorus and the fundus on the greater curve. It was plainly an old ulcer with much adjacent scarring which extended in the direction of the fundus. Dr. Reddy related the clinical history of the case. The patient, a girl of twenty, was acting as a wet-nurse at the time she had first consulted him, a few months before. She had complained of some slight digestive derangement. A few days before death she was thought to have caught cold. Sudden peritonitis had developed and death had occurred in thirty-six hours from the beginning of the attack. It was found out that in the previous year she had been under treatment in the Montreal General Hospital for gastric ulcer.

Pendulous Tumor.—Dr. England exhibited a patient with a large pendulous tumor growing from the perinæum just behind the scrotum, and resembling exactly a second scrotum. It was concluded that the tumor was of the nature of fibroma.

Salivary Calculus.—Dr. J. Hutchinson exhibited two salivary calculi which had been removed from the floor of the mouth, where they had occupied the center of a pus cavity.

Typhoid Fever in an Infant Seven Months Old.—Dr. England related the history of an infant of seven months, who had regularly gone through a severe attack of typhoid fever. The child came of healthy parents, but was artificially fed and had, previous to this attack, suffered from vomiting and diarrhœa, for which the speaker had advised the parents to take it to the country for the hot months. On its return to town in the end of September it was noticed to be ill, and on the 2d of October he had found it with a rapid pulse; temperature, 102·6° F.; abdomen tympanitic. All these conditions had persisted for some three weeks, and, in addition, a rash of a typically typhoid character had appeared and spread itself over the abdomen and chest. The spleen was distinctly enlarged, and the liver also. There was slight bronchitis. Toward the end, regular remissions of temperature occurred. The total duration of the illness was about four weeks.

Enormous Enlargement of the Liver.—Dr. R. L. MacDonnell related the history of a female patient who had been sent to his clinic at the Montreal General Hospital for advice. She was thirty years of age, married, and had had three children and two miscarriages. There was every appearance of good health. There had never been anæmia, jaundice, ascites, gastric derangements, hæmatemesis, diarrhœa, melasma, or hæmorrhoids. Ever since her first child was born she had suffered from occasional attacks of pain in the right hypochondrium with a sense of discomfort at times, but she had not been laid up in such a way as to prevent her doing housework every day. There was no history of alcoholism, but syphilis was highly probable, since her husband had been a man of very dissolute habits, and she had had a purulent uterine discharge for many years.

The abdomen was not distended, but the walls were remarkably flaccid. The liver could be plainly felt extending downward to a line two inches below the umbilicus, filling up the greater part of the abdominal cavity. The outline was uniform and the cleft between the lobes could be distinctly felt. On palpation, the enlargement was uniformly dense and resisting. There was no fluctuation. The surface was quite smooth. The area of hepatic dullness in the right mammary line extended from the third rib to a line two inches below the umbilicus and measured thirteen inches and a half. In the axillary line the liver extended as high as the sixth rib, and its dorsal upper limit was as high as the ninth rib. The increase was therefore very much greater in front than behind.

No splenic enlargement was discovered. The examination of the urine afforded no evidence of disease. The speaker remarked that this was the largest liver he had measured, and that he thought it was larger than any on record. There were several noteworthy features in the case. (1) The excellent condition of the patient's health. (2) The absence of evidence of implication of the kidney or of the spleen was against the diagnosis of waxy disease, but still it would be impossible to imagine a liver corresponding to a greater extent with every detail of the classical descriptions of waxy disease. Moreover, there was fair evidence of a combination of two potent causes of waxy disease—chronic suppuration and syphilis. There were, however, on record both cases of amyloid disease of the kidney in which no evidence was given by the urine, and cases of amyloid disease of the liver in which the kidney was not involved. He would make further observations of the case and report at a later date.

Meeting of January 9, 1891.

The President, Dr. F. J. Shepherd, in the Chair.

Tubal Gestation.—Dr. George Armstrong exhibited a tumor, which he had removed by abdominal section from a young married woman. There had been three severe attacks of pelvic pain, and subsequently a pelvic tumor had been discovered which was thought to be an hæmatocele. The tumor removed, however, was found to be the result of a tubal gestation. Good recovery had followed the operation.

Thrombosis after Scarlet Fever.—Dr. Wyatt Johnston exhibited a specimen of thrombosis of the superior longitudinal sinus and left renal vein following scarlatina, and Dr. Armstrong related the clinical history. The child was two years and a half old. It had been extracted with the forceps, and from within a fortnight of its birth it had suffered from convulsive seizures which had occurred almost daily. Various modes of treatment, including circumcision, had been tried without effect. The parents had persisted in the belief that the forceps was to blame for the unhappy condition of the child. Death was caused by scarlet fever, and no lesion or injury could be discovered.

A Case of Abortive Typhoid Fever with a Severe Relapse.—Dr. James Springle related the history of a case of typhoid fever in which the symptoms had subsided in a few days. The patient was allowed to sit up and to resume his ordinary diet. Subsequently symptoms of typhoid of unusual severity, accompanied by jaundice, had set in, and the course of the case was protracted.

A Method for the Quantitative Estimation of Acetone in Urine.—Dr. R. F. Ruttan described his method of estimating acetone in urine and exhibited a form of separating flask which increased the accuracy and ease of the manipulation. The acetone was in the method converted into iodoform by adding iodine and caustic potash to the distillate of urine, and the iodoform separated and weighed. The author of the paper stated that when the same quantity of iodine and potassium hydrate was added to a solution of acetone, variations in the quantity of iodoform produced depended directly on the quantity of acetone present. This fact formed the basis of the method. He distilled half a known volume of urine. This contained all the acetone. One cubic centimetre of the distillate was introduced into a separating flask, and 5 c. c. of a normal solution of iodine in iodide of potassium and 10 c. c. of a normal solution of caustic potash were added with constant agitation. To this mixture were now added 10 c. c. of pure ether, and the flask was again well shaken. After the ethereal solution of the iodoform had separated, the watery solution below was run off and the ethereal solution measured, and half of it run out on a tared watch glass and allowed to evaporate at the temperature of the room. The iodoform was then weighed, and the quantity so obtained multiplied by 0·55 gave the quantity of acetone in 1 c. c. of the distillate. He used a separating flask so graduated that the volume of ether might be read off without opening the vessel. The method gave very accurate results, but the weighings must be very carefully made—so it could not be used by general practitioners without some chemical training.

Acetonuria.—Dr. Ruttan and Dr. Wyatt Johnston read a paper upon a fatal case of cerebral apoplexy in which sugar and acetone had been detected in the urine. The patient, a man aged sixty-seven, had been under the care of Dr. R. L. MacDonnell, who had been his medical attendant for the last seven years and had repeatedly examined the urine during that time, always with negative results. The fatal illness had set in suddenly with an apoplectic seizure. Coma had set in immediately and had lasted for twenty-four hours. The urine was found at the time of the seizure to contain 1·7 per cent. of sugar, which had increased next day to 2·4 per cent., and then had disappeared entirely. Acetone to the amount of 0·31 to 0·37 per cent. was found associated with the sugar, and the quantity had persisted for five days after the sugar had disappeared. The quantity of acetone had then dropped to from 0·025 to 0·015 per cent., and had finally disappeared also from the urine the day before death. The patient had partially recovered consciousness, but had complained of severe occipital pain. Death had occurred suddenly and unexpectedly on the twelfth day of the illness. The condition had been regarded as one of diabetic coma, but at the autopsy an extensive cerebral hæmorrhage was present, involving the whole of the base of the brain, but most extensive over the medulla. Neither the blood nor the urine found in the bladder had contained any acetone. The source of the hæmorrhage was a small aneurysm of the left posterior cerebral artery. Part of the hæmorrhage was of some standing, and part quite recent and almost fluid. They thought the acetonuria due to the pressure of the blood-clot upon the medulla.

Acetonuria had not hitherto been described in connection with cerebral lesions, though sugar had been noticed in the urine in tuberculous meningitis, brain tumors, etc. They considered that this symptom was worth looking for in doubtful cases of apoplexy, as an aid to localization of the lesion.

Meeting of January 19, 1891.

The President, Dr. F. J. Shepherd, in the Chair.

The Relations of Chorea to Rheumatism.—Dr. G. A. Brown read a paper on this subject, in which he cited cases to prove the very close connection between these two conditions. He had found benefit to arise from the use of arsenic and salicylates combined.

Dr. James Stewart considered that, in addition to rheumatism, a condition of instability of the nervous centers must be regarded as of itself a cause.

Dr. Mills spoke of the causes of chorea in dogs. These were mainly reflex and, in his experience, not dependent upon organic disease.

Plastic Surgery.—Dr. James Bell exhibited a patient on whom he had performed a successful plastic operation on the nose, in which he had succeeded in restoring a considerable portion of the tip of that organ, which had been destroyed by lupus. The general effect of the operation was very good.

The President also exhibited a patient in whom a new chin had been formed in order to replace what had been lost in a huge scar, the result of a burn received in infancy.

Cardiac Lesions.—Dr. Wyatt Johnston exhibited a heart showing chronic endocarditis of the mitral valve together with evidences of pericarditis of very old standing. The latter had undergone a calcareous change.

Dr. R. L. MacDonnell gave an outline of the history of the case. The patient had had scarlet fever in childhood. There were no heart symptoms until he had arrived at the age of forty, when he had begun to suffer from dyspnœa, præcordial pain, and dropsy of the feet. During his illness there had been severe attacks of epistaxis. In one of these the posterior nares on the left side had been plugged. This operation had been followed immediately by acute otitis media, ending in rupture of the drum membrane. There had subsequently been an attack of acute renal congestion with the passage of bloody urine. The liver and spleen showed signs of enlargement, and there were evidences of congestion at both pulmonary bases.

A Large Aneurysm of the Arch of the Aorta, springing almost directly from the origin of the vessel, was shown in a specimen that had been sent by Dr. Tunstall, of British Columbia.

Ulcerative Endocarditis probably of Gonorrhœal Origin.—The patient had been admitted to Dr. Molson's wards in the Montreal General Hospital on December 12, 1890, and had died the following morning. He was a well-built man, thirty-four years of age, a stone mason, intemperate. He had twice been under Dr. Molson's care for gonorrhœal rheumatism. Six weeks before admission he had contracted a fresh gonorrhœa which was followed by a fresh attack of rheumatism. A fortnight before admission there had been an increase of the discharge, said to be due to a fresh exposure. In addition to these symptoms, he had been out of health for some months, suffering from cough, breathlessness on exertion, and pain. There was no history of rheumatism or scarlet fever. On admission the temperature was 102·5° F. Pulse 120 and weak. Respirations 48.

There was noisy breathing, with distressing cough. Dullness and weak breathing were found over both bases and mucous râles throughout both lungs. So noisy were the breath sounds that no cardiac murmur was recognized.

Removal of an Osseous Body from the Knee.—Dr. Hingston exhibited a fragment of bone which he had removed from the knee joint of a young man. The symptoms were similar to those commonly met with when loose cartilages are present. An open incision was made and the substance removed. On examination, it was found to be distinctly bony in structure. Its dimensions were about an inch by half an inch.

Book Notices.

A Hand-book of Diseases of Women. Including Diseases of the Bladder and Urethra. By F. Winckel, Professor of Gynæcology, and Director of the Royal University Clinic for Women, in Munich. Authorized Translation. Edited by Theophilus Parvin, M. D., Professor of Obstetrics and Diseases of Women and Children in Jefferson Medical College, Philadelphia. Second edition, revised and enlarged, with One Hundred and Fifty Illustrations. Philadelphia: P. Blakiston, Son, & Co., 1889. Pp. xxiii–17 to 766.

This is a valuable book, inasmuch as it records the author's vast experience and brings in parallel with it that of the gynæcologists of other countries. I's utility as a hand-book, however, is somewhat impaired by the absence of a separate chapter on manual examination and the interpolation of such instruction as the subjects require in the midst of extraneous material. We find, for instance, a disquisition on specula introduced into the chapter on vaginal catarrh, between the sections on diagnosis and on ætiology and for another—and a discussion on tampons as a subdivision of the section on various kinds of uterine displacement. Owing to a paucity of definitions, the meaning of such terms as salpingitis, colpitis, etc., is only to be determined by the context, and parametritis, perimetritis, and hæmatocele are mentioned, but to be dismissed without such detail as would aid the uninitiated to determine their nature. Again, we may have a description of pathological changes without the anatomical relations of the altered structure being stated, as is the case with Morgagni's hydatids.

These omissions, comprehensible on the part of a hard worker and learned man like Winckel, whose intimate knowledge of the subject-matter would naturally incline him to forgetfulness of the necessities of beginners, render the compilation somewhat unfit for a text-book, although valuable as a book of reference.

The arrangement of the various sections is such that foreign growths and displacements are considered before the functional disturbances and inflammations. This we consider unfortunate, inasmuch as the latter conditions are necessarily constantly referred to before their nature has been defined. Not only is great confusion thus produced in the mind of a young gynæcologist, seeking in vain to penetrate the obscurities of an undefined pathological condition, but also the indications for the treatment of such complications of versions, etc., as uterine catarrh are necessarily discussed before the latter itself has been considered.

The carelessness with which the different subdivisions are maintained renders reference to the hand-book somewhat difficult. Thus, we find under the head of symptoms of ovarian carcinoma considerations concerning their ætiology, their clinical and microscopical aspects, their prognosis, diagnosis, etc. But we heartily approve of Winckel when he protests against castration and hopes that the time is not far distant when extirpation of the healthy ovary for dysmenorrhœa, ovarian neuralgia, epilepsy, and mental disease will be classed with clitoridectomy, once so frequently done, although the latter is far less injurious and harmless. He considers every castration for the removal of ovaries not obviously diseased to be a mistake or, as Liebermeister declares, a blunder, and only indicated in neuroses when the latter are dependent upon pathological changes in the sexual organs, after other means have been tried without success and the affection is considered dangerous to life. The cause of the neurosis must be eliminated by the operation, although even then the operation will not inevitably be successful, for, according to the law of eccentric projection toward the periphery, the sensation of pain which is felt in the ovary will frequently persist after the latter has been removed.

Lectures at St. Peter's (in 1890) on Some Urinary Disorders connected with the Bladder, Prostate, and Urethra. By Reginald Harrison, F. R. C. S., etc. London: Baillière, Tindall, & Cox, 1890. Pp. 5 to 81.

These lectures of Mr. Harrison's include a consideration of the prevention and early treatment of prostatic obstruction, of the operative treatment of advanced forms of prostatic obstruction, of points in the therapeutics and hygiene of the bladder, of the significance and surgical treatment of hæmaturia, of the early treatment and detection of stone in the bladder, and of some miscellaneous points.

The author does not believe there are any grounds for asserting that, if a person having an enlarged prostate lives long enough, a bladder trouble must necessarily supervene, having observed men that had well-marked signs of this condition continue in good health for years. Frequency of micturition and the existence of some impediment usually bring cases of enlarged prostate to the surgeon. The use of suppositories is deprecated; and, in order to preserve the deep channeling of the middle prostatic lobe, the regular use of a flexible bougie—either "whip," olive-headed, or *à ventre*—has often proved most serviceable. Besides general hygienic measures, he has found extract of ergot in cinnamon-water most useful in restoring the tone of the bladder. As an operative measure he favors tapping the bladder from the perinæum through the prostate, retaining the cannula *in situ*, and has seen atrophy of the gland follow this operation. Or he performs external incision of the membranous urethra on a grooved staff, introducing the index finger through the prostatic urethra; the floor of the prostate may be divided, or a portion of the gland may be excised, or a drainage-tube may be inserted. We agree with him in his estimate of the undesirability of the suprapubic operation in such cases. The necessity of sterilization of the urine by quinine, boric acid, or hyposulphite of sodium before an operation is referred to; and pichi, saw palmetto, and borocitrate of magnesium are recommended for the various pathological conditions of the urinary apparatus.

The lectures on hæmaturia and stone in the bladder are excellent, and the entire volume is full of practical points that will be of interest not only to the surgeon, but also to the general practitioner.

The Time-relations of Mental Phenomena. By Joseph Jastrow, Professor of Psychology at the University of Wisconsin. New York: N. D. C. Hodges, 1890. Pp. 60. [Fact and Theory Papers.]

The author states that the time-relations of mental phenomena may be studied as an index of mental complexity, by which objective demonstration sanctions the results of subjective observation; or as a mode of analysis of the simpler mental acts; or as demonstrating the close interrelation of psychological with physiological facts; or as suggesting a means of lightening and shortening mental operations. Reactions may be simple, reflex, automatic, and voluntary, or adaptive.

While the measurement of the operations of daily thought would be most interesting, there is a complexity about them that requires a study of simpler reactions. There are intrinsic and extrinsic factors that influence reaction-time, the former being included under the personal equation. The results obtained by students of the subject are shown in the tables of simple and complex reaction-time; the former varies from 105 thousandths of a second for the recognition of an electric shock in the forearm (tested eight minutes after taking 60 cubic centimetres of rum) to 266 thousandths of a second for reacting to a low sound, while complex reaction-time varies from 146 thousandths of a second for recognizing sounds of different intensity to 1,122 thousandths of a second for reacting to five categories of spoken words.

There is an excellent presentation of the work of various experimenters, and a bibliography completes the volume.

The publishers are to be congratulated on the selection of works they are making for this interesting series.

BOOKS AND PAMPHLETS RECEIVED.

Manual of Clinical Diagnosis. By Dr. Otto Seifert, Privatdocent in Würzburg, and Dr. Friedrich Müller, Assistant der 11. Med. Klinik in Berlin. Translated from the Fifth German Edition, enlarged and revised, with the permission of the Authors, by William Buckingham Canfield, A. M., M. D. (Berlin), Member of the Medical and Chirurgical Faculty of Maryland. Second English Edition, revised and enlarged. With Fifty Illustrations and One Colored Plate. New York: G. P. Putnam's Sons, 1890. Pp. xi–185. [Price, $1.50.]

New York Charities Directory. A Classified and Descriptive Directory to the Charitable and Beneficent Societies and Institutions of the City of New York. Fourth Edition. Published by the Charity Organization Society, 1890.

Transactions of the American Gynæcological Society. Vol. XV. For the Year 1890. Philadelphia: William J. Dornan, 1890.

Transactions of the American Orthopædic Association. Fourth Session, held at Philadelphia, Pa., September 16, 17, and 18, 1890.

Removal of Tonsillar Hypertrophy by Electro-cautery Dissection. By Edwin Pynchon, M. D., Chicago. [Reprinted from the *Journal of the American Medical Association.*]

The Organization of an Operation. By W. W. Keen, M. D., Philadelphia. [Reprinted from the *American Journal of the Medical Sciences.*]

The Continuous Inhalation of Oxygen in Cases of Pneumonia otherwise Fatal, and in Other Diseases. By Albert N. Blodgett, M. D., Boston. [Reprinted from the *Boston Medical and Surgical Journal.*]

Notes and Remarks on the Birth of a Double Fœtus, somewhat resembling the Siamese Twins. By Augustin M. Fernandez, M. D., New York. [Reprinted from the *American Journal of the Medical Sciences.*]

The Modern Treatment of Strabismus. By Alex. Duane, M. D., New York. [Reprinted from the *Transactions of the Medical Society of Virginia.*]

The Effect of the Products of High Explosives, Dynamite and Nitroglycerin, on the Human System. By Thomas Darlington, M. D., New York. [Reprinted from the *Medical Record.*]

Craniectomy for Microcephalus. The Later History of a Case of Excision of the Hand-center for Epilepsy. By W. W. Keen, M. D., Philadelphia. [Reprinted from the *Medical News.*]

The Medical Expert. By J. T. Eskridge, M. D., of Denver, Colorado. [Reprinted from the *Medical News.*]

Points on the Treatment of Epilepsy. An Abstract of a Lecture delivered before the Class of the Kansas City Medical College, at the City Hospital. By S. Grover Burnett, A. M., M. D., Kansas City, Mo. [Reprinted from the *St. Joseph Medical Herald.*]

Note on the Virile Reflex. By C. H. Hughes, M. D., St. Louis. [Reprinted from the *Alienist and Neurologist.*]

The Psychopathic Sequences of Hereditary Entailment. By C. H. Hughes, M. D., St. Louis. [Reprinted from the *Alienist and Neurologist.*]

Twenty-second Annual Report, By-laws, and List of Members of the New York Physicians' Mutual Aid Association.

Twenty-first Annual Report of the New York Ophthalmic and Aural Institute. For the Year beginning October 1, 1889, and ending September 30, 1890.

Twelfth Annual Report of the Board of Trustees of the Indiana School for Feeble-minded Youth, Fort Wayne, Ind. For the Fiscal Year ending October 31, 1890.

Third Annual Report of the Methodist Episcopal Hospital of the City of Brooklyn, covering the Period from November 1, 1889, to October 31, 1890.

Ninth Annual Report of the Hospital for Women and Children, Newark, N. J., December, 1890.

A Practical Treatise on Fractures and Dislocations. By Frank Hastings Hamilton, A. B., A. M., M. D., LL. D., Late Professor of Surgery in Bellevue Hospital Medical College, etc. Eighth Edition, revised and edited by Stephen Smith, A. M., M. D., Professor of Clinical Surgery in the University of the City of New York, etc. Illustrated with Five Hundred and Seven Woodcuts. Philadelphia: Lea Brothers & Co., 1891. Pp. xvi–35 to 849. [Price, $5.50.]

A Compend of Diseases of Children. Especially adapted for the Use of Medical Students. By Marcus P. Hatfield, A. M., M. D., etc., Chicago. With a Colored Plate. Philadelphia: P. Blakiston, Son, & Co., 1891. Pp. 9 to 185. [Quiz Compends, No. 14.]

Text-book of Hygiene. A Comprehensive Treatise on the Principles and Practice of Preventive Medicine from an American Standpoint. By George H. Rohé, M. D., Professor of Obstetrics and Hygiene in the College of Physicians and Surgeons, Baltimore. Second Edition, thoroughly revised and largely rewritten, with many Illustrations and Valuable Tables. Philadelphia: F. A. Davis, 1890. Pp. x to 421. [Price, $2.50.]

Twelve Lectures on the Structure of the Central Nervous System, for Physicians and Students. By Dr. Ludwig Edinger, Frankfort-on-the-Main. Second revised Edition. With 133 Illustrations. Translated by Willis Hall Vittum, M. D., St. Paul, Minn. Edited by C. Eugene Riggs, A. M., M. D., Professor of Mental and Nervous Diseases, University of Minnesota. Philadelphia: F. A. Davis, 1890. Pp. xii-230. [Price, $1.75.]

A Guide to the Practical Examination of Urine. For the Use of Physicians and Students. By James Tyson, M. D., etc. Seventh Edition. Revised and corrected. With a Colored Plate and Wood Engravings. Philadelphia: P. Blakiston, Son, & Co., 1891. Pp. x-13 to 255.

Actinomycosis of the Lung. Being the Joseph Mather Smith Prize Essay for 1890. By Eugene Hodenpyl, M. D. [Reprinted from the *Medical Record.*]

Use and Abuse of the Obstetrical Forceps. By Eugene Prosper Bernardy, M. D., of Philadelphia. [Reprinted from the *Transactions of the American Association of Obstetricians and Gynæcologists*, September, 1890.]

The Climatic Causation of Consumption, with Tables and Diagrams representing the Same. By Henry B. Baker, M. D., of Lansing, Mich. [Reprinted from the *Journal of the American Medical Association.*]

Reports on the Progress of Medicine.

OBSTETRICS.

By ANDREW F. CURRIER, M. D.

The Influence of Syphilitic Infection during Pregnancy (Steffeck, *Ctrlbl. f. Gyn.*, August 16, 1890).—In view of the great difference of opinion as to the influence which the syphilis of a pregnant woman has upon her fœtus, the disease being contracted subsequent to impregnation, the author's paper may be considered timely and important. While Winckel, P. Müller, and Zweifel are of the opinion that the fœtus will be the more certain to be infected the earlier the syphilitic virus is received in the period of gestation, Schröder was in harmony with the most eminent syphilographers in insisting that a woman who was healthy at the time of conception and was subsequently infected must bear healthy—that is, non-syphilitic—children, except in very rare cases. It is difficult to decide whether the cases which the author cites strengthen the view of the first-mentioned authors or are to be regarded as the exceptional cases of Schröder, because many will attribute no value to the statements made by even the most truthful pregnant women, and, on the other hand, because it can not be stated with certainty that syphilis was not latent during or even prior to impregnation. The author admits this in saying that the mothers were free from syphilis at the time of conception, so far as this fact could be determined. The two cases narrated by the author are also to be regarded as exceptional, since the syphilitic disease of the placenta in these cases was manifest only in the fœtal portion, and, according to the investigations of E. Fränkel and Zilles concerning placental syphilis, the disease affects, as a rule, only the maternal portion. Syphilitic infection in both cases was supposed to have taken place in the fifth month of gestation, and delivery took place in the first case twenty-three days before the normal termination of pregnancy, and in the second case forty days before that period. With the great changes which had taken place in the placenta in the latter case the author compares the fact that in this case the child died before birth, while in the former case the child was born alive, the placental changes being less marked than in the other. The value of the author's communication lies in the accurate observation which demonstrates nothing more or less than that syphilis contracted by a healthy mother about the middle of pregnancy may be transmitted to the ovum. That this is the rule can only be stated after a large series of cases has been investigated with care and precision equal to that which has been exhibited in the two cases of the author.

Fibromata of the Uterus as Complications of Pregnancy (Pozzi, *Gaz. méd. de Paris*, May 24, 1890).—Pregnancy tends to give a great impulse to the development of fibromata, and often leads to their œdematous softening. Especially is this likely to occur with interstitial tumors. The result of this sudden increase in size may be pressure phenomena of a very severe and painful character. If the myomatous uterus is retroflexed there may occur symptoms of strangulation of the organ. Should the tumor spring from the supravaginal portion of the cervix or the inferior segment of the body of the uterus, pressure symptoms will be very likely to occur, involving the nerves and the vessels associated with the bladder, the ureters, the rectum, etc. Abortion is the most common and not the least grave accident in these cases, and the danger from hæmorrhage will be great. The treatment will depend upon the nature of the accident and the seat of the tumor. If the tumor is subserous and located at the fundus there will be some danger of inflammation or of cystic degeneration, but, on the other hand, the tumor may disappear after the puerperal period is ended. Such tumors allow one to await results, but with intrapelvic growths the case is different. If they do not cause pressure symptoms, one can hope either that they will precede the fœtus in its passage through the parturient canal or that they will get out of the way after the rupture of the membranes and get above the superior strait. Such cases have occurred, forceps and version completing labors which appeared to be desperate at the outset. Expectation in such cases must not be continued too long to the detriment of the mother, the alternative being the removal of the tumor. Fibromata of the cervix have been removed both just before and during parturition. Many instances of this character are on record. Polypi of the uterus may be easily removed, and, if removed before parturition, it may not interrupt the pregnancy. Interstitial fibromata tending to develop toward the abdominal cavity are difficult of access and of removal, and one should consider the question of inducing premature labor in such cases. If the placenta is seated in the region of the tumor, a severe hæmorrhage may occur, and there will also be danger from puerperal septicæmia. The records of a large number of cases of accidents of this character showed that the maternal mortality was fifty-three per cent., the infantile mortality thirty per cent. Hence many surgeons prefer a timely intervention prior to labor, supravaginal amputation of the uterus or Cæsarean section being performed. The maternal mortality in Cæsarean section for this accident has been eighty-three per cent. The Porro operation is not difficult, on the other hand, deals with the subject in a very radical manner, and is perhaps to be preferred over other methods of treatment.

Tubal Gestation in the First Months, with Special Reference to the Pathologico-anatomical Situation (Orthmann, *Ztsch. f. Geb. u. Gyn.*, xx, 1).—The recent literature of ectopic gestation is a full one, and it has been enriched by valuable contributions from men like Veit, Werth, and Olshausen, but there are still many questions connected with the condition which are undecided or only partly decided. Especially is this true concerning the pathologico-anatomical relations of tubal gestation during the first months. Leaving out of consideration those cases which are seen immediately or shortly after the rupture of the fœtal envelope, there still remain many difficulties to be solved concerning those cases in which the fœtus has died and changes have taken place in the structures, these difficulties becoming greater the longer the period that has elapsed between the death of the fœtus and the moment of operation. The diagnosis in such cases between hæmatosalpinx and tubal gestation can only be reached by the aid of the microscope. In most of these cases there is no trace of a fœtus, and all the evidence of pregnancy remaining will consist of fœtal membranes, chorion tufts, or decidua. Ruge has stated that the only certain proof that pregnancy has existed in such cases consists in the presence of decidua cells. Ten cases of tubal gestation are narrated, occurring in women between the ages of twenty-six and forty-four. In four of the cases the menstruation was absent for only one month, in three a prolonged hæmorrhage occurred at the time when menstruation was due, in one there was hæmorrhage a few days prior to the time when menstruation was due, in one there was profound collapse on the day for the beginning of the period, with evidence of internal bleeding, and in one there was neither intermission of the menstruation nor hæmorrhage. In five of the cases the seat of the gestation was in the right tube and in five in the left. One of the women died from hæmorrhage and one from ileus.

In two of the cases there was no trace of intraperitoneal hæmorrhage; if there had been any, the blood had been absorbed. In six there was intraperitoneal hæmatocele. Microscopically, one should expect to find in most cases of tubal pregnancy changes in the mucous membrane at the uterine end of the tube. These will consist in swelling and thickening of the folds of the mucous membrane with small-cell infiltration; also small-cell infiltration of the muscular layers, with hypertrophy of the same and of the intermuscular connective tissue; also changes in the epithelium indicative of catarrhal salpingitis. Other conditions may be summarized in the following propositions:

1. If we find in the interior of the tube a firmly organized blood-clot, we can make the diagnosis of tubal gestation with a probability bordering upon certainty.

2. Intraperitoneal hæmatocele complicated with tubal gestation comes either from rupture of the fœtal sac or the escape of the ovum through the abdominal opening of the tube.

3. The demonstration of decidua cells is not absolutely indispensable for the diagnosis of tubal gestation.

4. Chorion cells may be demonstrated in all cases of tubal gestation during the first months.

Extra-uterine Gestation (Olshausen, *Jour. de méd.*, April 20, 1890).—This condition is no longer looked upon as a rarity. Veit was the first to publish this fact, and he believed that twenty-eight per cent. of hæmatoceles resulted from extra-uterine gestation. Olshausen thinks this estimate is too low and that in the majority of cases hæmatocele results from the ruptured sacs of tubal pregnancy. Progress in the elucidation of the ætiology, symptomatology, diagnosis, and pathological anatomy of this question has been great, and the therapeutical results have been correspondingly important. Hecker's opinion that in the greater number of cases the subjects of tubal gestation are multiparæ, and that the anatomical cause of the abnormal gestation consists in the peritoneal bands and adhesions which obstruct and obliterate the tubes, is correct, but the condition may also be associated with catarrhal and hæmorrhagic salpingitis, the epithelium of the tubes being changed and the passage of the ovules along the fimbriæ being interfered with. In addition there may be immobilization of the tubal wall and suppression of its peristaltic motion. Associated with tubal gestation in not a few cases are uterine myomata, and in others there are small polypi of the tubal mucous membrane which tend to prevent the onward passage of the ova. Ovarian gestation is now regarded as a great rarity, and abdominal gestation is believed to be usually if not always secondary to a tubal gestation in which rupture has occurred. Formerly it was supposed that rupture of a gravid tube must always occur by the second or third month, but now it is believed that changes may take place in the tube which will permit of the continuance of the pregnancy to term. There may be cessation of the menses in extra-uterine as in intra-uterine gestation, or there may be discharges of blood, mingled with membrane, from the uterus, which will go far toward establishing a diagnosis. If symptoms of this character are considered indicative of an abortion, and curetting is performed, the result may be disastrous to the patient. The uterus in such cases is, of course, empty and soft, and contiguous to it there will be a tumor united by a pedicle to the uterine cornu. The method of treatment has not yet been definitely determined, but great progress has been made in settling this portion of the question. If the diagnosis has been made ere the hæmorrhage has been severe, an abdominal section may be made without expectation of great difficulty. The uterine and ovarian arteries are first tied, and the sac can then be readily dissected out. If extensive rupture has taken place, the result will depend upon the condition of the patient. If the hæmorrhage has not been overwhelming, the abdomen should be opened at once and the bleeding vessels tied. If the hæmorrhage has ceased, one may not be compelled to proceed at once to the active treatment of the hæmatocele.

If the pregnancy has advanced beyond the middle period, the question as to treatment becomes complex, especially if the child is living. The children in such cases are usually malformed and not viable. The mother, on the other hand, is exposed daily to the danger of a fatal hæmorrhage. There is less danger from the performance of an abdominal section. In most cases the sac can be extirpated even though it is included in the broad ligament. If there has been suppuration in the sac, however, it should be attached to the abdominal wall and drained. If the latter procedure is adopted, the placenta should be removed, though the hæmorrhage is sometimes great after such a procedure, and one must exercise discretion as to such a step. If the fœtus has long been dead and the sac has not suppurated, an operation is indicated, for, as long as calcification of the fœtus is incomplete, suppuration will be possible.

Retention of the Dead Fœtus in the Uterine Cavity (Pinard, *Le Concours méd.*, April 12, 1890).—In some cases of this character labor is not delayed and goes on as under normal conditions. But in many others the fœtus is retained and labor does not take place. What should one do in such cases, what changes do the fœtus and its coverings undergo, and what are the symptoms which indicate the retention of a dead fœtus? The changes in the fœtus will vary according to the period of development which had been reached when death occurred. If death occurs during the first two or three months of existence, the fœtus will be dissolved in the course of a few weeks, and there will be no trace of it when the ovum is expelled. If existence has continued beyond the third month, the fœtus will undergo atrophy, mummification, or desiccation. The amniotic fluid gradually becomes absorbed, the remnant being thick in consistence and more or less of it clinging to the surface of the fœtus. Maceration most frequently occurs when the fœtus dies subsequently to the fifth month. The tissues are softened and infiltrated with fluid, but decomposition progresses slowly. Putrefaction takes place if the fœtus is in contact with the atmosphere, owing to rupture of the membranes. The gases of decomposition which are developed may distend the uterus, producing physometra.

With regard to the mother, if the ovum remains intact, no morbid symptoms may be evident. Palpation of the womb when the fœtus is dead reveals the presence of a soft, elastic tumor, which may contract under the pressure of the hand. Auscultation and vaginal touch reveal only negative symptoms, there are no fœtal heart sounds, and the normal softness of the cervix may not be present. There is an absence of fœtal movement, and the outlines of the fœtal body become more appreciable. If putrefaction takes place, the effect upon the mother will speedily be a deleterious one. As to the treatment, it will vary with the following conditions:

1. The fœtus is dead, the ovum intact, and labor not in progress. All interference in such cases is bad and dangerous. The fœtus will be expelled as soon as all vital relations with the maternal structures have terminated. If labor is excited, the mother may be exposed to the dangers of putrefaction. The aim should be to keep the mother in an aseptic condition by suitable vaginal douches until labor comes on. If the woman has albuminuria, one must beware of using solutions of mercury for irrigating purposes.

2. The fœtus is dead, the ovum is intact, and labor has begun. Rigorous antisepsis must be practiced, and the membranes must not be ruptured prematurely. Examinations should be as infrequent as possible. Hot-water irrigation may be used to hasten labor. Delivery should be proceeded with slowly and cautiously, and if after the child is born the placenta is retained, hot-water injections into the uterus may be repeated every half-hour for several hours. If this is inefficient, the placenta may be extracted with the hand.

3. The fœtus is dead, the ovum is ruptured, but labor has not begun. One should not wait for accidents before interfering. The uterus should be dilated and the fœtus extracted, if it is not expelled by the natural forces.

4. The fœtus is dead, the ovum is ruptured, and labor has begun. Labor should be accelerated by means of vaginal or intra-uterine irrigation. If such measures do not suffice, and there are phenomena of putrefaction, the dilatation should be hastened by the use of the dilating balloons of Ribes.

The Nature and Treatment of Puerperal Osteomalacia (Fehling, *Ctrlbl. f. Gyn.*, Aug. 23, 1890).—Marked cases of osteomalacia have heretofore given a very bad prognosis, most of the patients dying in consequence of obstetrical operations or of subsequent wasting disease, such as tuberculosis. A turning point in this matter has been reached in connection with the Porro operation, the removal of the uterus and ovaries being quickly followed by the permanent recovery of the patients. In the past three years and a half the author has removed the ovaries from nine women suffering with osteomalacia. All but one of these recovered, and have remained well. They had all been sufferers from the disease for a long time. Their ages varied between twenty-eight and fifty-one years. The ætiology of the disease was studied in connection with these cases. Examination of the urine showed the presence of small quantities of lime and phosphoric acid, but the quantity varied from day to day. Examination of the blood of the patients, and of the ovaries which were removed, gave a negative result as to bacteria. In some cases there was diminished alkalinity of the blood, in others there was not. Jaksch's views in regard to the ætiological importance of this factor were not sustained. Neither can the production of sterility in these women be looked upon as an essential factor. Some of them had not been pregnant for four or more years, and they promptly recovered from the disease after the removal of the ovaries. The following propositions are considered important:

1. With each recurring menstruation the suffering in this disease becomes worse.
2. When an operation is performed, the pains of the disease at once begin to mitigate, pain in the ribs and sternum disappearing before its disappearance in the pelvis.
3. The extirpated uterine appendages show enormous vascularity, the arteries and veins being dilated as they are in pregnancy. This may be a fact of importance in the ætiology of the disease.
4. The average number of children in the author's cases was 5·4. This fertility indicates great functional activity of the ovaries.

Castration signifies irritation of the vaso-motor nerves. In consequence of this come contraction of the vessels and recovery from the disease, exaggerated resorption of bony elements no longer taking place. Hence the author regards osteomalacia as a reflex trophoneurosis of the bony system proceeding from the ovary, and analogous to struma and Basedow's disease.

Indications for the Treatment of Retroflexion of the Uterus (J. Veit, *Ztsch. f. Geb. u. Gyn.*, xx, 1).—The prevailing opinion at the present time is that retroflexion of the uterus should be treated by operative measures. Treatment by pessaries is usually only palliative, Löhlein estimating the number of cures by such means as not greater than two per cent. of all cases treated. The danger to life from operative measures may be considered insignificant. Retroflexions are seldom, if ever, of congenital origin, but they are common enough in young girls. Operative procedures for the relief of retroflexion include the various methods of ventro-fixation, shortening the round ligaments, shortening the recto-uterine ligaments, and the method of attachment which has been proposed by Schücking. By none of these operations is the uterus restored to normal conditions as to position and mobility, the aim being to produce the least amount of abnormity in the new conditions in which the organ is placed. Retroflexion occurring for the first time in those who have passed the menopause is usually susceptible of mechanical treatment—that is, treatment by pessaries. The symptoms are not often severe enough in such cases to warrant operative treatment. The same treatment will often suffice for young girls and for virgins in general, especially if supplemented by tonics, baths, massage, and good hygienic regimen in general. In many cases, however, which are treated in this way a permanent cure is not effected.

Retroflexions which occur for the first time after a confinement are often treated satisfactorily by pessaries, hot-water douches, ergot, etc., but the same does not hold good of retroflexions which recur after confinement; the latter will usually require operative treatment. In cases in which the retroflexed organ is also adherent as a result of simple or septic perimetritis, the indication is clear to release the adhesions and restore the uterus to a proper position by abdominal section. Schultze's method of treating such conditions without opening the abdomen may be efficient in some cases, but one can never be quite certain in releasing the adherent organ that he will not do serious damage to other structures. Besides, adhesions that are thus separated are quite as likely to reunite as if separated by the finger in the abdomen. If the retroflexion is associated with diseased appendages, abdominal section is urgently indicated for both conditions. The method of operation after abdominal section is thought to be of less importance than the decision to attempt a cure by such a procedure. And it is thought that a cure will be more likely to result by an abdominal operation than by shortening the round ligaments from the outside. Schücking's operation is thought to be a rational one theoretically, but the author has had no practical experience with it.

Operations for Myomata Uteri (A. Martin, *Ztsch. f. Geb. u. Gyn.*, xx, 1).—The histories of thirty cases in which operations were performed for myomata uteri are given in detail, and the following conclusions represent the author's views at the present time:

1. Enucleation *per vaginam* should be limited to cases in which the tumor is of small size and in which there is already a tendency to extrusion.
2. If the uterus is the seat of myomata, but is still movable in the pelvis, the tumors being small relative to the caliber of the vagina, extirpation of the uterus *per vaginam* is to be recommended in case the condition is one which calls for operative treatment.
3. Large tumors which must be attacked by the abdominal cavity should be removed without the removal of other structures if possible. Whenever it is possible, the ovaries and tubes should be allowed to remain, together with a sufficiently intact uterus for the performance of its customary functions.
4. Enucleation of myomata during gestation, by abdominal section, may be regarded as a perfectly proper operation in the light of present experience.
5. If the uterus can not be retained it should be removed entire with the tumor, the question as to the intraperitoneal or extraperitoneal treatment of the pedicle being a matter upon which no positive directions can be given at present.

Hyperemesis Gravidarum (Flaischlen, *Ztsch. f. Geb. u. Gyn.*, xx. 1).—The ætiology of this condition as expressed in recent literature may be divided into the following propositions:

1. There may be actual disease of the gastro-intestinal tract complicating the gravid state.
2. There may be inflammatory conditions in the vicinity of the uterus.
3. The uterus may be displaced.
4. The vomiting may be a reflex neurosis of the stomach associated with a gravid uterus which is in a normal condition, or there may be pathological processes in certain portions of the uterus.

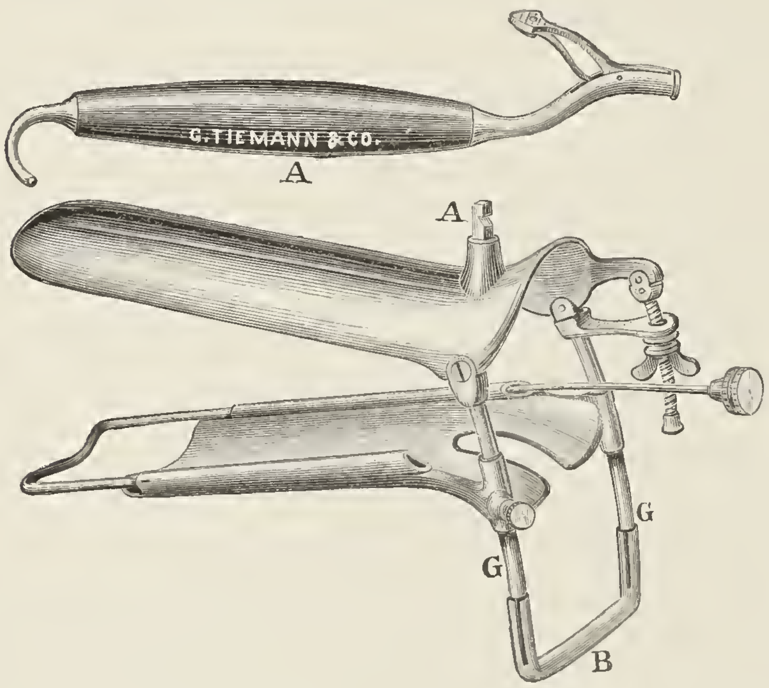
When the vomiting is associated with no pathological condition of the uterus various factors may be assigned as contributory to its cause. One of these is race tendency or peculiarity; thus the condition is very rare in Germany, less rare in England, and least rare in France. Brock attributes it to individual peculiarity; Fischel, to increased nervous irritability resulting from changes in the condition of the blood and consequently in the nutrition of the nervous system. Others regard it as a psychopathic condition or as a result of fatty degeneration of the liver. Schröder attributes it to excessive extension of the uterus, to the excess of passive tension over active growth, or to inflammation of the endometrium. Rheinstädter attributes it to irritation of the sympathetic nerves which is increased by the pressure of the pelvic organs. Veit regards it as an indication of endometritis; Horwitz, as an indication of metritis; Bennet, as an expression of inflammation of the portio vaginalis. Five cases are narrated, three of which ended fatally; in the other two the patients were saved by the performance of abortion. In all the cases the vomiting became a threatening symptom in a very short time. This would seem to indicate a very profound disturbance in the nervous system, effecting or perhaps proceeding from disturbance in the nutrition of the heart muscle, and sometimes leading to collapse even though the vomiting has ceased. The means of treatment which have been recommended are numerous, including most of the narcotics and sedatives, the use of a very weak galvanic current, and dilatation of the cervical canal. The latter procedure, known as Copeman's method, has not at the present time the enthusiastic advocacy which it once had. The most satisfactory method of treatment as a means of saving the life of the woman consists in the performance of abortion. There is seldom any fever in these cases; the pulse is the most useful guide. When it is very small and frequent, and emaciation is progressing rapidly, an operation will probably be required, and if it is to be done successfully one must beware of putting it off too long.

New Inventions, etc.

VAGINAL SPECULUM WITH AN ATTACHMENT FOR USE IN THE SIMS POSITION.

By George Wackerhagen, M. D.,
BROOKLYN.

This speculum was published in the *New York Medical Record*, January 15, 1873, and, as it has given such general satisfaction to those who have used it, I deemed it to be of interest to present it again with its improvements. This instrument is self-retaining, and has heretofore only been of use with the patient in the dorsal position. The inferior blade is solid, and is four inches and a half long by an inch and a half wide; it is connected to a sliding frame by a hinge-joint. The curve at the base of the blade is the same as in the ordinary cylindrical speculum. The superior blade is also solid, and is three inches and a half long. This blade has a longitudinal slide attached, by which it may be lengthened or shortened, and is of great assistance in directing the cervix uteri in the most desirable position for the application of topical remedies or surgical operations, especially when that organ is anteflexed. The sliding frame is two inches and a half in length by an inch and a half wide, and *is directed toward the pubes.*

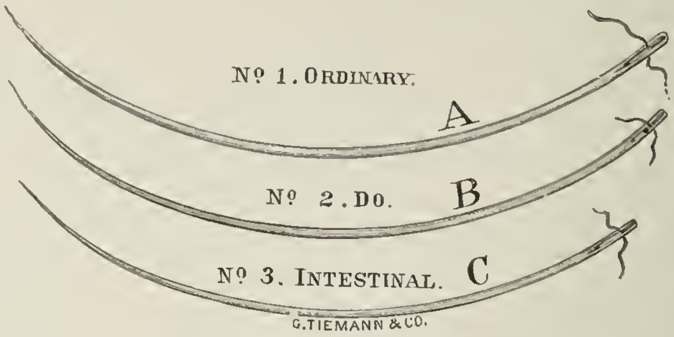


The improvement consists of a handle, A, to the posterior blade, which permits its use as a Sims speculum. This handle can be attached or disconnected, as occasion may require. In using it as a Sims speculum it is necessary to remove the cross-bar, B, from the perpendicular bars, C, which are now unscrewed, leaving the posterior blade, to which the handle may be attached, as hereinbefore described. This instrument is manufactured by Messrs. George Tiemann & Co., New York.

IMPROVED SURGICAL NEEDLES.

By George Wackerhagen, M. D.,
BROOKLYN.

I desire to present a cut of a new curve in surgical needles. These needles are especially adapted for use without a needle-holder. They are each three inches long and slightly flattened in order to prevent rolling or turning when held between the thumb and index-finger. They are arranged in the following order: A, ordinary large; B, ordinary medium; C, intestinal, with round points.



I have found in surgical practice that nearly all sutures can be more readily introduced without the trouble of applying the needle-holder; also that a curve such as is represented in the cut can be used in all cases, where either a straight or curved needle is required, excepting in small cavities, when it is necessary to use a very small curved needle; then, of course, a needle-holder is indispensable. These needles are manufactured by Messrs. George Tiemann & Co., New York.

To Contributors and Correspondents.—*The attention of all who purpose favoring us with communications is respectfully called to the following:*

Authors of articles intended for publication under the head of "original contributions" are respectfully informed that, in accepting such articles, we always do so with the understanding that the following conditions are to be observed: (1) when a manuscript is sent to this journal, a similar manuscript or any abstract thereof must not be or have been sent to any other periodical, unless we are specially notified of the fact at the time the article is sent to us; (2) accepted articles are subject to the customary rules of editorial revision, and will be published as promptly as our other engagements will admit of—we can not engage to publish an article in any specified issue; (3) any conditions which an author wishes complied with must be distinctly stated in a communication accompanying the manuscript, and no new conditions can be considered after the manuscript has been put into the type-setters' hands. We are often constrained to decline articles which, although they may be creditable to their authors, are not suitable for publication in this journal, either because they are too long, or are loaded with tabular matter or prolix histories of cases, or deal with subjects of little interest to the medical profession at large. We can not enter into any correspondence concerning our reasons for declining an article.

All letters, whether intended for publication or not, must contain the writer's name and address, not necessarily for publication. No attention will be paid to anonymous communications. Hereafter, correspondents asking for information that we are capable of giving, and that can properly be given in this journal, will be answered by number, a private communication being previously sent to each correspondent informing him under what number the answer to his note is to be looked for. All communications not intended for publication under the author's name are treated as strictly confidential. We can not give advice to laymen as to particular cases or recommend individual practitioners.

Secretaries of medical societies will confer a favor by keeping us informed of the dates of their societies' regular meetings. Brief notifications of matters that are expected to come up at particular meetings will be inserted when they are received in time.

Newspapers and other publications containing matter which the person sending them desires to bring to our notice should be marked. Members of the profession who send us information of matters of interest to our readers will be considered as doing them and us a favor, and, if the space at our command admits of it, we shall take pleasure in inserting the substance of such communications.

All communications intended for the editor should be addressed to him in care of the publishers.

All communications relating to the business of the journal should be addressed to the publishers.

THE NEW YORK MEDICAL JOURNAL, February 7, 1891.

Original Communications.

THE INFLUENCE OF LAPAROTOMY UPON TUBERCULOSIS OF THE PERITONÆUM.*

By PARKER SYMS, M. D.

A year ago my attention was forcibly called to this subject by the patient whom I present to you to-night.

He was suffering from a condition which neither I nor my colleagues could define. I did an exploratory laparotomy and found that his disease was tuberculosis of the mesentery and peritonæum. To attack the disease was hopeless, so I closed the incision, which healed primarily, and, to my surprise, the patient's condition began to improve from the day of the operation, and he finally appeared to be entirely cured of his trouble.

His history is as follows: James L., single, aged twenty-five, a hostler by occupation, was admitted to the Colored Hospital on October 24, 1889; has had measles, whooping-cough, scarlatina, intermittent fever; never had typhoid fever. Family history is negative as to tuberculosis. He has had gonorrhœa three times. The last attack was two years previous to his admission, and at that time he contracted syphilis, of which he had well-marked secondary symptoms, such as eruption, pharyngitis, neuralgias, etc. When admitted, the patient was poorly nourished, had an anxious expression, and complained of constant pain in the abdomen, which was always increased by eating. He suffered a good deal from constipation and flatulence. His heart and lungs and urine were normal; respiration, 24; temperature, 101° F.; pulse, 96.

On the 10th of November I was asked to examine a tumor which had appeared in his right hypochondrium. Since his admission his pain had continued to increase in severity; his temperature had varied between 101° and 103°, and he had rapidly lost strength and weight. I examined him under ether and found a very well marked, elastic, apparently cystic tumor. It was connected with the liver and followed the movements of that organ, but the anterior margin of the liver could be felt distinct from the tumor. The mass was slightly movable. It seemed to be rather crescentic in shape and occupied a space extending about four inches along the free border of the ribs to the right of the median line and about six inches downward. Dullness was continuous with that of the liver, though the tumor was partly covered by small intestines and was resonant, except upon deep percussion. Two or three bodies about the size of a small marble could be felt freely movable over the surface of the tumor.

Shortly after this I had several of my friends see him in consultation, but none of us was able to make a diagnosis. As possible conditions, empyema of the gall-bladder, suppurating cyst of liver, encapsulated peritonitis, etc., were suggested. That he was suffering from a sepsis was evident from his temperature, pulse, night-sweats, etc.

On November 22d I did an exploratory laparotomy, expecting to attack the disease if it proved to be an operable one. I made an incision about six inches long over the most prominent part of the tumor, about the outer border of the rectus. Upon opening the abdominal cavity, I found that the mesentery was covered with enlarged glands varying in size from that of a pea to that of a large hazel-nut. Apparently every portion of the mesentery was diseased. The tumor consisted of a mass of intestines and folds of peritonæum matted together, and probably surrounding a mass of tubercular lymphatics and glands. It extended from the root of the mesentery up into the longitudinal fissure of the liver, to the under surface of which it was firmly adherent, thence downward for about six inches in a broad mass apparently involving the duodenum, the ascending and part of transverse colon. One of the mesenteric glands was removed and proved to be in a state of cheesy degeneration in the center, with a surrounding zone of tubercular tissue. Nothing further was done, save closing the wound, which was done by a double row of sutures. The wound healed by primary union with no reaction. From the day following the operation the patient began to improve. His temperature continued to vary, but the exacerbations were lower than they had been, and finally ceased.

The patient soon ceased to suffer from his former symptoms and gained steadily in strength and weight. Three months later he appeared to be in good health. He was free from all subjective symptoms; his bowels moved daily and he was apparently cured. The tumor had very much decreased in size, and could be felt only by deep pressure. On the 1st of August he left the hospital, and has worked steadily since then as a laborer. I saw him on the 23d of November. He says that he has been entirely well until ten days ago, when he began to have a return of his former symptoms. Upon examining him, I find that the disease has started afresh. His abdomen is very much distended by tympanites and there is some ascitic fluid. The tumor has reappeared, but is not as well defined as before. He has an infiltration in the upper lobe of the right lung, and his axillary and cervical glands are involved. He says these swellings appeared before he left the hospital. His temperature and pulse are 100.

Of course it may be argued that this intermission in the disease was merely coincident with the time of operation, but I am convinced that the improvement which took place in this patient's condition was the direct result of the operation. Previous to this he had steadily failed in strength, his symptoms, both subjective and objective, became daily more pronounced, and the abdominal tumor increased continuously. The day following the operation he was comparatively comfortable, and within a few days he expressed his gratitude for what had been done for him, and said he felt better than he had for a long time. This was confirmed by the change in his general and special conditions. His improvement was constant and progressive, and since he left the hospital he has been able to do the heavy work required of a day laborer and says he has been as well as he ever was until ten days before I last examined him.

I am strengthened in this belief by the written testimony of others concerning the beneficial effect of laparotomy in these cases. The German surgeons have contributed most of the records. I have studied reports of about forty instances of cures, and of as many more where a marked improvement has resulted. Several of these were remarkably similar to my case, especially one reported by Prochownik, and one by Péan, of Paris. In nearly all these cases the operation was done through error in diagnosis or, as in my case, as a means to diagnosis. Very seldom was anything done beyond exploring the abdomen, diagnosticating the condition and abandoning the case as an inoperable one, and closing the cavity. Of course, when ascites existed the fluid was withdrawn. Sometimes the original focus of the disease was removed—as ovaries, tubes, etc.—but usually nothing was done which could apparently affect the widespread disease, and cure has seemingly resulted from the mere peritoneal incision. In some cases disinfectants have been used—such as flushing the abdomen with solutions of salicylic acid, thymol, bichloride, etc.; also iodoform has been dusted on to and rubbed into the diseased surfaces. For some reason, the ultimate results of these cases do not compare favorably with those in which no attempt at disinfection was made.

---

* Read before the New York Surgical Society, November 26, 1890.

I must say that, to my mind, the reason why laparotomy benefits these cases is an occult one. Many theories have been advanced, but I have not found one which offers a satisfactory explanation of this phenomenon. Of course, those surgeons who met with success after using one or more of the disinfectants felt assured that the result was due to the chemical agent employed. But, as I remarked above, this does not hold true, for cases in which no such agent was used did equally well and even better. Some who had only attacked cases of diffuse peritonitis, in which hydrops was the prominent feature, attributed the gain to the improved condition of the abdominal blood circulation consequent to the removal of pressure by relieving the ascites. That this does not account for it is shown by the fact that the withdrawal of the fluid by tapping does not bring about the favorable result. This is well illustrated by a patient of Schwarz's in Hofmokl's collection of seventeen cases; in this instance the aspiration was followed by an immediate and increased dropsy, and a palliate incision done eight days later resulted promptly in a very marked improvement. This patient died of general tuberculosis six months later, and there had been a comparative cure of the peritonitis. Cure is also attributed to the fact that the handling of the abdominal contents gives rise to a plastic form of peritonitis resulting in abundant adhesions and an encapsulating of the disease. While this seems to me the most rational explanation offered, it certainly is not a satisfactory one. We surely do not find an analogy to it in tuberculosis of any other part of the body. Besides, in many of the cases the manipulation was very limited, and certainly did not involve all the diseased parts of the cavity. Usually the incision was closed as soon as the disease was recognized, and yet recovery seems to have followed in these cases, proportionally as well as in cases where an extensive manipulation was resorted to.

Perhaps by leaving our direct subject and studying the effect of laparotomy in various morbid conditions of the abdominal organs, we may some day be able to throw light upon this question. There are many instances upon record where diseased conditions—such as enlarged livers and spleens, tumors of these and other organs—have disappeared after an exploratory incision, and I am sure that the members of the Surgical Society can recount a number of them. Lawson Tait makes mention of many such, and offers the following explanation, which I quote:

"The cases are far too numerous and the results indicate a sequence far too clearly for us to dismiss the phenomena as a mere coincidence; nor can we accept the explanation of subsequent medical treatment as having brought about the much-desired ending. I am satisfied that mere opening of the peritoneal cavity has a direct influence in setting up the process of absorption of the tumor, and my conviction in this direction has increased my confidence in the principle of exploration. That some emphatic physiological change is at once set up by opening the peritoneal cavity is clearly indicated by the uniform onset of a most distressing thirst, which lasts for days, and is not seen so markedly after any other operation known to me. Let the incision in the abdominal wall be made down to the peritonæum, but the serous cavity remain unopened, and the thirst is not marked. But let the peritonæum be opened but a finger's breadth, and the result is marked. That a therapeutic change is effected in the peritonæum itself by mere opening of the cavity is now universally recognized in the treatment of what we call tubercular peritonitis by abdominal section. I have now had a large experience on this point, and can say positively that we can cure permanently and speedily cases that have gone even so far as suppuration by opening and cleansing. But in the bad cases in all probability the cleansing is never complete, no matter how much time and care are spent upon it; and in non-purulent cases I very often do no cleansing at all, but merely empty out the serum and put in a drainage-pipe. Yet the great majority of these cases are cured by these simple means.

"Four times in my life I have opened the abdomen for the purpose of removing enlarged spleens, and in every one of the instances I have been deterred from proceeding with the operation by reason of the hopelessness of the outlook for the patient. Strange to say, in three of the four patients the tumor has disappeared, and they are now, to my knowledge—or were, at least, a short time since—in perfect health; the fourth succumbed to the exploratory incision."

Mr. Tait's theory that the result is brought about by a physiological change in the peritonæum is, of course, one which is not now capable of demonstration, and I fully agree with König, who says that we are by this question confronted with a mystery and a riddle yet to be solved.

König has made the most complete collection of cases. It embraces virtually all that have been reported. He tabulates 131 cases of operation, including 14 of his own; 120 were in women, and but 11 in men. This disproportion is probably owing to the fact that a majority of the women were operated upon under the supposition that they had diseases or tumors of the pelvic organs, for Phillips found, in 107 cases discovered in 2,230 autopsies, that 89 examples were in men and only 18 in women. Of these 131 cases, 30 per cent. were under twenty years of age and 70 per cent. were between twenty and fifty years old. The mortality from operation was about 3 per cent.

One hundred and seven of the 131 patients were discharged from treatment in a most satisfactory condition; 23 of these were merely improved, while 84—that is to say, 65 per cent.—remained cured. König insists that cure can not be assured without an observation of two years, so he reduces the number of cures to 30 of these cases which were observed over two years (14 of the 30 were observed over three years). Thus we have a cure lasting over two years in 24 per cent. of all patients operated upon. As examples: Spencer Wells's remained well for twenty-five years; Schücking's, fifteen years; Stellwag's, thirteen years; and König has cures lasting nine, eight, seven, and six years, respectively.

From a careful study of the reports of laparotomy in tuberculosis of the peritonæum, and of the various essays upon this subject, I have come to the following conclusions:

1. That the danger of the operation is very slight. At present the death-rate is but 3 per cent.

2. That sepsis is not so likely to occur in these peritonæa as in laparotomy on healthy ones, on account of the pathological changes which have taken place in the membrane.

3. That tubercular infection of the wound does not occur.

4. That disinfectants are useless and that drainage should not be used, as it is likely to result in a permanent sinus.

5. That in unsuccessful cases the operation at least does no harm. Most of the patients who have died at a time remote from the operation have succumbed to general tuberculosis or to a tuberculosis of some other organ.

6. That established—not advanced—pulmonary tuberculosis is an indication for and not against the operation; for the improvement gained enables the patient to better resist the phthisis, and, if this latter is but incipient, recovery may take place.

7. That laparotomy is the proper form of treatment for these cases. In some unknown way it exerts a most beneficial influence upon the disease, resulting in cure in a large proportion of cases, and in a marked improvement in nearly all.

Literature.

Schröder, C. *Zeitschr. f. Geburts. u. Gynäk.*, Bd. xii, S. 499.

Weinstein. *Wien. med. Blt.*, 1887, 17 and 18.

Péan. *Gaz. des hôp.*, Paris, 1886, No. 68.

Fehling. *Korrespblt. f. schweitzer Aerzte*, 1887, No. 20.

Caspersohn. *Mitthl. f. d. Verein Schleswig-Holstein Aerzte*, April, 1888, Hft. xi, Stk. 8.

Czerny. *Beitrag z. klin. Chir.*, von Bruns, Czerny, Kronlein u. Socin, Hft. i, Bd. vi.

Prochownik. *Deutsche med. Woch.*, No. 24, 1889.

Kuemell, Esmark, Mikulicz, Wagner. Proc. of the Sixteenth Germ. Surg. Cong. *Ctrlbl. f. Chir.*, 1887, No. 25.

Hofmokl. *Wien. med. Woch.*, 1887, xxxvii, 498.

Schwarz. *Wien. med. Woch*, 1887, xxxvii, 389, 431, 468.

Tait, Lawson. *Edinburgh Med. Jour.*, November, 1889.

König. Internat. Cong., Berlin, 1890. *Ctrlbl. f. Chir.*, No. 35, August 30, 1890.

Adulteration of Milk with Oil.—"Perron has drawn attention to the adulteration of milk with oil, which is emulsified by means of borax or yolk of egg, and does not produce any effect on the taste of the milk. The addition of this emulsion gives 'body' and conceals the addition of water. The mixture of a pure tasteless oil of low specific gravity emulsified with yolk of egg effectually conceals the fact of milk having been skimmed."—*Druggists' Circular and Chemical Gazette.*

A CONTRIBUTION TO THE DIAGNOSIS OF RAYNAUD'S DISEASE

(SYMMETRICAL GANGRENE).*

By GEORGE W. JACOBY, M.D.

Although a great deal has been written upon the subject of local asphyxia and symmetrical gangrene since Raynaud directed our attention to this symptom complex, and very many new cases of the affection have been described, our knowledge to-day of all its features, except perhaps the purely clinical ones, is hardly any more advanced than it was at the time of Raynaud's writing. Ætiologically, we have in a certain sense made some progress, for we now realize that other causes than those which Raynaud believed to be the only admissible ones may have a supplementary productive action. At the time of Raynaud's observations, when the pathology of such and analogous affections was entirely dominated by Virchow's influence, it was customary to explain all these troubles by the assumption of vascular obstruction. Raynaud, realizing fully that the clinical features of the affection were thus not satisfactorily explained, but at the same time recognizing that an affection of the vessels alone was capable of explaining them, propounded his theory. Raynaud says: "I propose to demonstrate that there exists a variety of dry gangrene, affecting the extremities, which it is impossible to explain by a vascular obliteration—a variety characterized by a remarkable tendency to symmetry, so that it always affects similar parts, both upper and lower limbs, or all four at the same time, and in some cases also the nose and ears, and I shall endeavor to prove that this kind of gangrene owns for its cause some error as to the innervation of the capillary vessels."

Raynaud's description of the affection is as follows: "In slight cases the extremities become the seat of cold, accompanied by cyanosis and lividity, with more or less pain. In severe cases the cold occupies a considerable territory and goes up to several centimetres above the roots of the fingers or toes; at the same time the nose and ears may be similarly affected; if continued for a time, gangrenous points appear on the extremities; the gangrene is always dry and may occupy from a pin's head in size in the dermis to an entire phalanx."

Precisely the same links which Raynaud recognized as missing in the chain of evidence necessary to substantiate his theory are to-day still lacking. The cause of this failure to progress is to be sought for entirely in the fact that all subsequent writers have followed Raynaud entirely too blindly, accepting his ideas *in toto*, or at most modifying them in some unessential particular. Thus Weber believes that the vessels are not so much contracted as the smooth muscles of the skin, and Weiss that it is not so much the arteries which are contracted as the corresponding veins. All, however, agree with Raynaud that these changes, whatever they may be, are due to abnormal vaso-motor innervation, and that the symmetry of the affection must be due to an excitation of the spinal cord, radiating thence to the vascular nerves supplying the extremities. Also agreed is it that the various stages of the affection, changing from local asphyxia to gangrene, are dependent upon the extent of the contraction of the terminal vascular ramifications, these varying in size from simple diminution to complete occlusion. Hochenegg acknowledges, and he is one of few, that many cases of symmetrical gangrene, so called, are not due to nerve influence, but to abnormal blood mixture. The gangrene of the peripheral parts is, however, here also explained by the assumption of a reflex contraction of the peripheral vessels.

---

* Read before the New York Neurological Society, January 6, 1891.

It must be considered a matter for surprise that, as observations became more and more numerous and the ætiological factors of the various cases became more and more complicated, observers did not break away entirely from the sharp boundaries laid down by Raynaud and his followers and recognize that—although his theory, for want of a better explanation, was applicable to a few cases—it required great faith and great imaginative capacity to consider even a representative minority of the published cases as thus satisfactorily explained.

Raynaud, demanding that all cases classed as symmetrical gangrene be due to abnormal vascular innervation, but realizing that certain cases which clinically corresponded fully to his description were manifestly due to some other than a nervous cause, excluded these cases from the category of symmetrical gangrene. How unwarrantable this demand was is clearly proved by the fact that Weiss, also continuing this sifting process, found it necessary to exclude, as not being cases of symmetrical gangrene, fourteen of the seventeen cases which Raynaud accepts. Other observers, going to the opposite extreme, have, in the face of Raynaud's demands, called cases Raynaud's disease which clearly should not have been so named. Thus Verdelle as well as Bouveret do not hesitate to include cases of general atheromatosis in which symmetrical gangrene occurred in the category of Raynaud's disease. Petit and Verneuil also, in considering cases of local asphyxia due to malarial influence, have accepted cases in their list which were clearly cases of malarial infarction, or which presented elements which speak still more against their acceptance, as, for instance, their Case XVIII. Here a male patient was affected with Raynaud's disease; the hands, ears, and nose were implicated; it is also said that the left arm was completely paralyzed, and that there was endocarditis. Comments are unnecessary.

With Raynaud's demands before us, the acceptance or non-acceptance of a case into this class would simply resolve itself into a question of negative evidence, dependent upon the impossibility of discovering any pathological change which could account for the local symptoms. That this impossibility will to a great extent depend upon the complicating factors of the case as well as upon the diagnostic powers of the examiner needs hardly be stated. Having before us a case of spontaneous gangrene, and wishing to decide whether it is a case of Raynaud's disease or not, we must bear in mind that this form of gangrene may be due either to pathological changes in the blood-vessels, to abnormal blood states, or to nervous disorders; then we must exclude entirely the first and second of these propositions, and also part of the third, for the possible presence of any gross disorder of the nervous system must also be eliminated. In many cases it will at once thus become evident that Raynaud's disease is only a symptom of some other affection, but in many cases the difficulty will lie in recognizing the primary malady, and, as I propose to show, this will often be impossible. Neither can we ever be sure in a given case whether later observations may not take it out of the category of Raynaud's disease.

As it is recognized that the symptoms of local asphyxia and symmetrical gangrene are often due to unrecognizable states of disordered blood mixture, I shall not spend any time in adducing proofs of the correctness of this proposition.

Upon the question of anatomical nerve disease as a cause of symmetrical gangrene there can also now not be any uncertainty. As stated, in order to make a diagnosis of symmetrical gangrene in Raynaud's sense, we must be able to exclude gross nerve disease. That this can not be done in many cases is now also well known and recognized. This knowledge is due mainly to the impetus given to the anatomical study of the nerves in symmetrical gangrene through the efforts of Déjérine and Leloir, who in 1881, in two cases of acute decubitus, found the nerves in the affected parts to be in a state of parenchymatous neuritis. In 1884 Mounstein found a similar condition to be present in a case of symmetrical gangrene, but as in this case arterial changes were also found, it can hardly be considered a clear case, and I shall have occasion to refer to it again. Pitres and Vallard, in 1885, also found structural nerve changes in cases of symmetrical gangrene, the arteries having been found normal. Wigglesworth, Affleck, and others have also found neuritis in cases of Raynaud's disease.

The class of cases, however, with which I particularly desire to deal now, and to whose proper understanding the foregoing facts were necessary, are those cases which come under the caption of gangrene due to pathological changes in the blood-vessels.

It is a *sine qua non* for the diagnosis of Raynaud's disease that the lumen of the vessels be free and their walls found in a healthy condition, so that vascular disease, as a causal agency in the production of this affection, may be anatomically excluded.

If, with this in mind, we review the various cases reported, we will find that, although pathological examinations have not been frequently made, still in a number of cases in which this has been done, the condition of the arteries does not fulfill the required obligations. This statement is supported by one of Mounstein's cases (cited by Hochenegg). This case, in which also a neuritis multiplex was found, showed various chalky, ossified places in the arteries (posterior tibials), and the capillary vessels around the gangrenous parts contained microscopic hyaline thrombi. The clinical history of the case is not given, nothing being stated except that it occurred in a man aged forty-seven.

Goldschmidt describes a case in a person of forty-three, who, being in full health, became affected with local asphyxia and symmetrical gangrene without discoverable cause. First the right hand was affected with local syncope; a year after, the left became affected in a similar manner; soon the syncope gave way to asphyxia, and this later on became complicated by the occurrence of symmetrical gangrene. Three fingers on each hand were thus affected; upon the left hand, the index, medius, and ring fingers; and upon the right, the thumb, index, and medius. At the same time the local asphyxia progressed with stages of arrest until the fingers remained in a permanent condition of cold and torpor. The entire condition was precisely such as is described by Raynaud. The feet also were cold, moist, and cyanosed, but not further affected. In other ways also the patient resembled the picture drawn by Raynaud. Upon autopsy, a multiple endarteritis, varying only in degree of development, was found.

Ransom has published a case of symmetrical gangrene in which the affection was confined to the face. On autopsy, no disease of the facial arteries was found, but atheroma of the arch of the aorta, with narrowed lumen of the innominate and also of the left carotid at their origin, was discovered.

Barlow, in a supplementary report to a case previously published, says the left foot was amputated for gangrene. Amputation at the middle third of the thigh. The stump was examined and the arteries were "free from calcification or atheroma in the ordinary sense; for a short distance above the gangrene there was thrombus in the arteries, and there was remarkable contortion and infolding of the elastic lamina in some sections; thickening of outer and middle coats of arteries."

Fox, also in a supplementary report, says: "Joseph A. died comatose (April 8, 1888) with diabetes and albuminuria. General atheroma of the medium and larger sized arteries, especially the aorta, carotids, iliacs, femorals, and brachials, and of the vessels of the base of the brain."

Other considerations also will lead us to the conclusion that arterial disease is more commonly a cause of spontaneous gangrene than is at present supposed to be the case. These considerations are, firstly, cases occurring during a chronic nephritis, and, secondly, cases due to syphilis.

As a text to my remarks upon the nephritic cases, I will take the history of the following case observed by me in private practice:

A. B., male, aged forty-two, consulted me first on December 10, 1884, on account of a numbness and coldness of the fingers. Heretofore patient has always been well. He is a hard-working, energetic business man, with absolutely no neuropathic predisposition. His habits as regards alcohol and tobacco are good; he uses both but moderately. No history of rheumatism, syphilis, or malaria. No history of exposure to cold or wet. He complains that for the last six weeks his fingers have not felt as they should; he thinks that he first noticed the trouble after washing in cold water, when his fingers felt stiff, as though partially frozen. That night he had intense pains in his fingers, and the following morning they appeared swollen and purple, with the exception of the middle finger of the left hand, which looked like dead. This condition has remained almost unchanged; during this time the pain has been continuous, but of greater severity at night, so that it is almost impossible for him to fall asleep. Examination of the patient showed that all the fingers of both hands, with the exception of the thumbs and the middle finger of the left hand, were purplish and cold. To the examiner they felt like ice. This coldness extended upward to above the first interphalangeal joint. The left medius was cold like the other fingers, but differed from them in color, being blanched and dead-like; the thumbs were normal. Sensation to touch and to the pricking of a pin was reduced. Pressure on the ends of the fingers was painful. The pulsation of the radial and ulnar arteries at the wrist was normal in every particular. The feet were cold, but otherwise normal. Heart normal. Urine contained neither sugar nor albumin. Here I would say that the urine was repeatedly examined after subsequent visits, and always with the same negative result.

During the two weeks following his first visit to me it appeared as though the skin of the fingers gradually dried up, and then from the first interphalangeal joint downward (over the entire cold area) necrotic pieces of skin came off; this necrosis did not extend through the skin, and I can hardly call it a peeling of the skin, as it came off in circumscribed patches which varied in size.

On the ends of the fingers, upon the palmar side, the necrosis extended through the skin, and black, circumscribed sloughs, with a brownish area of discoloration extending around them, were formed. These sloughs varied in size from that of a pea to one which covered the entire phalanx of the left medius. The nails of the fingers showed purple discoloration around the matrix, with disseminated hæmorrhagic spots all over. From this history and from the symptoms present at the time of examination, I diagnosticated the case as one of Raynaud's disease.

The patient, not improving under treatment, disappeared from observation until September of the same year. The condition was then as follows: All the sloughs have disappeared, leaving white scars. The entire third phalanx of the left medius is gone, the fingers are still cold and purplish, arteries of the forearm normal, no spontaneous pains, or upon pressure. I have no note as to whether the urine was examined then or not; the probabilities are that it was not, or some note would have been made.

January 29, 1885.—The patient complains of headaches and various dyspeptic disturbances. He gives a history of several very slight, transitory aphasic attacks. An examination of the urine resulted as follows: Light color; specific gravity, 1·010; albumin; kidney epithelia; casts, hyaline and granular. The further history of the case can be told in a few words; it was that of a chronic interstitial nephritis, without any unusual complications. In January, 1886, examination of the patient reveals hypertrophy of the left ventricle, high tension of the arteries, pulse incompressible. In February, 1888, an attack of apoplexy supervened, which resulted in coma and death in four hours.

This case is not by any means unique, for in 1880 Debove described a case of Raynaud's disease occurring in a patient suffering from a nephritis, and since then it has been shown that symmetrical gangrene is often observed in conjunction with Bright's disease. Dieulafoy, also, has shown that, during the course of this latter affection, the occurrence of dead finger is frequently observed. My case, however, acquires great importance from the fact that symmetrical gangrene was present before it was possible to discover any evidence of other disease, the urine and heart having been repeatedly examined.

From the history and course of this case we are entitled to conclude that certain changes, upon the nature of which it is unnecessary to enter, finally existed in the entire arterial system; it is also clear to me that the earliest clinical manifestation of these changes must be sought in the affection of the fingers, and that upon this affection of the peripheral parts rested the diagnosis of Raynaud's disease—a diagnosis which later developments proved to be an erroneous one. It is certain that Raynaud's theory can have nothing in common with this class of cases, but that their true pathology is best explained through the investigations of Gull and Sutton, about which, some years ago, there existed considerable dispute. The observations of these scientists have never been disproved, notwithstanding many attempts to do so. Their later observations on changes in the spinal cord and its vessels in arterio-capillary fibrosis again fortify their position. Some of the conclusions from their first paper may properly be reproduced here. They are: That there is a diseased state characterized by hyaline fibroid formation in the arterioles and capillaries; that it is probable that this mobid change always begins in the kidneys, but there is evidence of its also beginning in other organs; that the contraction and atrophy of the kidney are but part and parcel of the general morbid change; that this morbid change in the arterioles and capillaries is the primary and essential condition of the morbid state called chronic Bright's disease with contracted kidney; that the clinical history varies according to the organs primarily affected. In their paper published in 1877 the following general remarks, which are of interest here, are made: "Clinical medicine, from this point of view, would recognize the importance and bearing of many now supposed unimportant ailments, and might find that these ailments are signs of commencing tissue changes of the kind in question, springing up in one or more of the several organs, it might be in advance of renal changes and foreboding their advent."

It is unfortunate that in no case of symmetrical gangrene occurring during the course of Bright's disease have the microscopic arteries, particularly those of the nonaffected parts, been examined. Reasoning from the case described and from the quotations given, it is not presuming too much to suppose that analogous changes would also be found there.

All cases of spontaneous gangrene, be they symmetrical or unilateral, will require careful attention and examination. In many we will be able to discover some local change in the arteries of the affected parts, while in others some general affection of the arterial sytem will explain the gangrene. Many cases will, however, always remain in which, no matter how careful the examination, no such explanatory conditions can be detected. Particularly difficult of understanding, and possibly of diagnosis, are those cases of spontaneous, gangrene occurring after acute diseases. Naturally I do not refer to arteriothrombosis, such as is the cause of gangrene occurring after measles, scarlet fever, puerperal fever, variola, etc., but to such cases as have been described by Estlaender, of Helsingfors; cases which occur during typhoid fever, and in which the gangrene is generally bilateral, does not pass beyond the toes or, at most, the foot, and in which the arteries are always free.

On the other hand, cases of coldness and lividity of the fingers, ultimately subsiding or ending in gangrene and due to an obliterative arteritis, as described by Walsham and Hadden, can not possibly present any difficulty in diagnosis; here the pulseless, indurated condition of the arteries supplying the affected parts is a sufficient indication of the process.

There are, however, still other cases which, in view of the fact that many of the so-called cases of Raynaud's disease are not symmetrical (also one of Raynaud's own cases), we are tempted to ascribe to nerve influence, but which are better explained by the assumption of an obliterative endarteritis. That this condition—endarteritis of small vessels, with obliteration of their lumen, to which attention was first called through Friedlaender's article—can produce gangrene, is shown by various clinical cases. Such cases are those of Benni—spontaneous gangrene of the left lower extremity—in which, upon autopsy, an endarteritis of the femoral and popliteal arteries was found; and of Saundby—spontaneous gangrene in a man, aged forty-seven, with no discoverable cause—which anatomically proved to be a case of obliterative arteritis. Pearce Gould presented at the Clinical Society of London a case of progressive obliteration of the arteries of the upper limb, probably starting in the hand and spreading to the axilla; and Recklinghausen has also reported a case, the original report of which I was unable to obtain, wherein he found an endarteritis obliterans in the gangrenous member. This retrospect leads us to a consideration of the syphilitic cases, for it is well known that syphilis produces upon the arteries a periarteritis which gradually encroaches upon their entire diameter, finishes as an endarteritis, and thus narrows, or even totally obliterates, the caliber of the vessel. It is also well known that many cases of spontaneous gangrene, which resemble cases of Raynaud's disease in every particular, are often due to such a syphilitic affection of the arteries; but it is asked of us that, in order to make a diagnosis of Raynaud's disease, we should exclude syphilis.

This demand in itself shows the weak foundation upon which this diagnosis rests, for if in two different individuals all the symptoms of Raynaud's disease are present, without any other symptoms which might indicate the existence of anatomical disease of the arteries, we are asked in the one case to exclude the diagnosis "Raynaud's disease" because the patient acknowledges having had syphilis, while in the other we must accept the diagnosis because a syphilitic history is not obtainable. The difficulty in understanding these cases lies in the fact that the frequent occurrence of syphilitic disease of the peripheral vessels, excepting those of the brain, is not yet appreciated as it should be.

While the action which syphilis exerts upon the large arteries has been known for years, and has no bearing upon the subject with which we are now dealing, our knowledge of its action upon the smaller vessels is due entirely to modern research.

As a result of these investigations, it has become evident that we are dealing with a subject of the greatest import; and the more we analyze the cases the more do we, on account of the complexity of the symptoms, realize the difficulty of the subject. One thing, however, is clearly shown by the results already obtained, and that is the necessity of carefully examining the small arteries of peripheral parts. What we know about the symptomatology of syphilitic affections of the superficial arteries, as revealed by a study of the few published cases, is as follows: From the clinical symptoms we are obliged to differentiate two phases of pathological change—a stage of induration with preservation of the lumen of the artery, and one of obliteration of the artery with all its consequences. In the obliterative stage we have symptoms of ischæmia, progressing in extent according to the seat of the affected arteries and according to the difficulty encountered in the establishment of the collateral circulation: if the terminal arteries of the extremities are affected, the disorder will be marked, and consist in œdema, slight cyanosis, reduction of temperature, and, finally, also gangrene of the parts; if, however, small arteries are affected whose collateral ramifications can be replaced, then the symptoms will be transient or entirely wanting. Finally, as syphilitic arteritis is frequently symmetrical (Baroux), we find that these symptoms are also often symmetrical.

The rarity of cases of syphilitic arteritis of the superficial vessels is, in my opinion, more apparent than real. Such cases have been described by Duplay (autopsy, generalized syphilitic endoperiarteritis of all the arteries of the body), Cabot and Warren (case of gangrene of the right lower extremity, preceded by severe pains; autopsy revealed a syphilitic arteritis), Lendet (case of a male, aged fifty-three, syphilitic since six years, presenting an arteriosyphilis of the anterior branches of both superficial temporal arteries; one artery after the other became affected, the course being spread over an entire year; the development of the arterial affection was preceded by great pain at the seat of inflammation). Baroux, Brault, and Wilks have described cases in which the arteries affected were the internal carotid, both carotids, the vertebral, and left carotid. Despres's case of amputation of the foot on account of an eschar was probably an arterial syphilis, and in Barker's case of spontaneous gangrene of the fingers due to arteritis this was also in all probability of syphilitic origin.

Cases of syphilitic arteritis which closely resemble cases of Raynaud's disease, but in which the correct diagnosis was made *intra vitam* on account of loss of pulsation in the arteries and evidence of induration in their course, have been published by Ornellas and Schuster.

Of his case Ornellas says that, never having heard of this kind of inflammation localized in the extremities, he had some hesitation in diagnosticating spontaneous gangrene through syphilitic arteritis, but the rapid amelioration which ensued under antisyphilitic treatment soon dispelled his doubts. The diagnosis was subsequently corroborated by Verneuil, Fournier, and Duplay. The case is of great importance, inasmuch as it furnishes practical support of Hutchinson's idea that an arteritis may begin in the small arteries of the fingers and ascend, for only after the second attack was radial pulsation lost.

Schuster's case is also important, because it clearly proves the possibility of symmetrical distribution of an arteriosyphilis of the peripheral vessels; here also was the differential diagnosis from Raynaud's disease difficult, and it was so particularly on account of the condition of the left foot, in which no gangrene was produced, the process being limited to Raynaud's prodromal stage.

Cases of Raynaud's disease occurring in syphilitic individuals have been described by Abercrombie, Morgan, Weaver, and others. Abercrombie's case is of particular interest in so far as it occurred in a child three years of age, who a year previously had had syphilitic manifestations and whose father was syphilitic. There is still another class of syphilitic cases, which is of the greatest importance from a differential diagnostic point of view. These are in all probability cases of syphilitic arteritis, but, no anatomical evidence of this arterial change being clinically discoverable, they would, from the clinical picture alone, have to be classed as cases of Raynaud's disease.

The following case is one of this class. The case was observed by me in private practice, and was also seen repeatedly by Dr. H. G. Klotz, to whom I am indebted for the use of his notes:

C. D., male, aged thirty-seven, called on me on January 7, 1890. Patient was infected with syphilis seventeen years ago; he gives a clear subsequent syphilitic history, having been afflicted with various syphilitic manifestations during the three years following the exposure. Since that time, with the exception of an attack of diphtheria two years ago, he has been fairly well. On November 28, 1889, he was exposed to a draught, which was followed by an attack of bronchitis from which he recovered in a couple of weeks. About ten days prior to his first visit to me, upon rising in the morning he noticed that his right hand was cold and swollen, the tips of the fingers having a bluish color and a mottled appearance. At the same time or a few days later the left hand became similarly affected, but to a slighter degree. Severe pains in the fingers of both hands then set in; in addition to the pains, he also had a feeling of burning and of painful tingling in both hands. The pains during the day were quite bearable, but at night they were so severe that he was unable to sleep.

Examination shows both hands to be affected, the right one being so much more than the left. The fingers most involved are the third, fourth, and fifth; they are swollen and reddened, with their ends cold and livid. This coldness and discoloration extends upward to the metacarpo-phalangeal articulations, but is most marked at the distal ends of the fingers. The difference in the temperature between the ends of the fingers and that of the rest of the hand is exceedingly pronounced; the temperature of the cold parts was not measured, as no surface thermometer was available, but I think that when I say that the difference was at least 10° F., I am rather underestimating than overestimating the condition.

There is no pain to pressure over any nerve trunk; a small spot over the fourth metacarpal bone of the right hand is quite sensitive to pressure. Superficial anæsthesia is present; pain is experienced when a needle is introduced more deeply. The swelling of the fingers is tense and unyielding. Pulsation is well marked in the radial and ulnar arteries of both hands. The heart and kidneys are normal. The patient, after having been seen by Dr. Klotz, was placed upon a mixed antisyphilitic treatment.

January 14th.—Condition slightly improved; swelling not so great. Patient complains now of continuous severe pains in the ends of the fingers. The nails just below their free border show a circle of hæmorrhagic spots. The pulps of certain fingers also show spots of hæmorrhages shining through the epidermis. The swelling and the bluish color are less prominent; the feeling of cold to touch is now hardly perceptible; the fingers are very sensitive. On the tips some portions are of a white color, suggestive of a flat bulla or blister, covered by a thick layer of epidermis; besides the white spots, other portions attract attention, which are of a dark-red color, and the tips of the fingers have precisely the appearance as though they had been exposed to severe cold. The general appearance of the patient has considerably improved.

29th.—Decided progress in improvement, particularly as regards the swelling and motility of the fingers; so also are the tips of the fingers much less sensitive; on some portions the epidermis is becoming detached in the shape of hard, thick scales, while on other portions the skin is dry and divided by cracks; some of the tips are hard and calloused. The left hand has undergone the same changes as noted of the right.

February 2d.—The callosities have gradually concentrated themselves upon the extreme tip of the fingers; then necrosis with formation of new skin underneath has taken place. The fingers to day are neither swollen nor painful, but the ends are still hard, with necrosed places on each; they look as though they would soon be entirely well.

May 1st.—Patient has been in Hot Springs, Ark. There he had twenty-four inunctions, thirty-one baths, and two mineral vapor baths. He says that his right hand is an inch and a quarter larger than formerly, which he knows from the fact of being obliged to wear a size and a quarter larger glove now than before he was taken sick. The fingers still feel worse when exposed to cold. To-day it seems to me as though the right radial pulsation were not as strong as that upon the left side.

June 9th.—The iodide which has been taken right along is discontinued; fingers somewhat stiff, but are improved by massage.

August 5th.—Hands in good condition, although the subjective feeling in them is not entirely natural.

December 4th.—Hands have normal appearance, but patient still complains of their getting cold very easily. Otherwise they are normal.

Cases very similar to this one have also been described by Hutchinson and Klotz.

Hutchinson's patient was a male, thirty years of age, syphilitic for four years. He presented coldness, lividity, and pain of the fingers of the left hand except the thumb, which was but slightly affected. On the ring finger there was a subcuticular suppurative sore. There was ten degrees difference between corresponding parts of the little, middle, and ring fingers of the two hands. The pulse at the left wrist was nearly as strong as that at the right, and there was no evidence of occlusion of the veins. Of this case Hutchinson says: "It is very possible that the arteritis, if such there were, began peripherally and traveled upward. Possibly it never reached the larger trunks. Although the finger tips never went into gangrene, they were very near it. The disease differs from the cases described by Raynaud, under the name of peripheral asphyxia, inasmuch as it did not involve all the digits, and was marked by extreme pain. Since its occurrence I have seen several cases favoring the belief that arteritis may begin in the small peripheral vessels and may travel to larger trunks. If in this instance it began in the vessels of the middle finger, and spread upward and involved the superficial palmar arch, the phenomenon might be fairly well accounted for."

Hutchinson is no doubt right in the way he regards the case, but his reasons for not classing it as a case of Raynaud's disease can hardly be regarded as convincing.

Klotz's case bears a very close resemblance to that of Hutchinson's:

> The patient was a male aged twenty-five. He was syphilitically infected three years prior to coming under observation; when he presented himself for treatment (February, 1889), in addition to syphilitic ulcers he complained of an affection of several fingers of both hands. The changes in the fingers had taken about a month to develop, and are described by Klotz as follows: "On examination, I found the fourth and fifth fingers of the right hand of a decidedly bluish, somewhat mottled appearance, and distinctly colder than the other three fingers, which presented a perfectly natural appearance. On the affected fingers the free border of the nails appeared remarkably white; next to the free border a zone of fine reddish streaks surrounds the nail, which looks dark blue, like the entire distal phalanx. This color extends over the whole finger, diminishing in intensity toward the knuckles. The fingers are not tender to touch or to pressure. In the center of the tip, close to the nail, on the fifth finger, the epidermis over a well-defined spot, about the size of a silver five-cent piece, is thickened, the surface being brittle and slightly scaling. The fourth finger exhibits nearly the same condition, the thickening of the epidermis only being less pronounced. The other fingers and the hand itself do not show any change of color or of temperature. A similar condition is observed on the third, fourth, and fifth fingers of the left hand, the fourth being less affected than the others. . . . On both wrists the pulse can be distinctly felt, the radial as well as the ulnar, the latter naturally somewhat less distinctly. Neither at the fingers, hands, nor arms can a thickened blood-vessel be felt." Several attempts were made to measure the temperature of the affected fingers, but without success; it was certainly less than 91° F.

From a consideration of the various data here adduced, from the nephritic as well as from the syphilitic cases, we are unavoidably forced to the conclusion that those authors who admit that an affection of the small arteries, be this an arteritis obliterans or other change, does produce a similar clinical picture to that found in Raynaud's disease, therein are right, but that these same authors are wrong when they contend that a differential diagnosis between the two affections can always be made. The points which are advanced by the various writers for the purpose of making this differential diagnosis are the following: Gangrene occurs in some cases of Raynaud's disease in places where endarteritis obliterans has thus far never been described (face, vulva, auricle, ear, nates, loins); the lesion in many cases of Raynaud's disease is confined to the superficial layers of the cutis, and this never occurs in endarteritis obliterans; the absence of those ætiological moments which produce vascular disease (syphilis); absence of all palpable anatomical changes in the vessels; and, finally, the occurrence of symmetrical gangrene in neuropathic individuals only.

That these points are invalid and some of them erroneous becomes clear when we consider: (1) That it is probable that arteritis obliterans does occur in the vessels of the skin, as shown in the very excellent article of Klotz, entitled The Occurrence of Ulcers resulting from Spontaneous Gangrene of the Skin during the Later Stages of Syphilis, and their Relation to Syphilis; therefore superficiality as well as location would not serve to exclude arteritis; (2) as regards the absence or presence of an ætiological moment (history of syphilis), I have already expressed myself at sufficient length; (3) if an arteritis occurs in the peripheral ramifications and spreads upward, then no anatomical change can be clinically detected; (4) that symmetrical gangrene occurs only in neuropathic individuals is a statement not supported by facts. It is true that nervous symptoms are frequently present, but these are often simply results of widespread vascular disease. We are therefore justified in concluding that the differential diagnosis between Raynaud's disease and anatomical disease of the arteries can in many cases not be made *intra vitam*—in other words, many cases of so-called Raynaud's disease are really cases of arteritis.

So long as symmetrical gangrene was looked upon as a distinct entity, it was no more than natural that a theory of production should have been sought which would be applicable to all cases; but that any one theory should have been adhered to, when it had become impossible to overlook the fact that all cases were not and could not be due to one and the same cause, is difficult to understand. When we realize that we are in this affection not dealing with an entity, but only with a symptom complex, then will this position be abandoned, and in each individual case the special and individual pathogenesis will be sought for and perhaps found. Certainly the endeavor alone will help to narrow the unsatisfactory classification of "vaso-neurosis," and will thus redound much to the credit and advancement of accurate science. In conclusion, I must distinctly state that it is far from my purpose to endeavor in any way to diminish the importance of the able and philosophical researches of Maurice Raynaud, but the extremes to which his theory is being carried must be checked, and a countercurrent in the direction which I have indicated seems to me to be absolutely necessary.

Literature referred to.

Abercrombie. *Archives of Pædiatrics*, Philadelphia, 1886, pp. 567–573.

Affleck, J. O. *British Medical Journal*, 1888, p. 1269, vol. ii.

Barker, A. E. *Trans. of the Path. Soc. of London*, vol. xxxvi, p. 174.

Barlow. *Trans. of the Clin. Soc. of London*, vol. xxii, p. 413.

Baroux. De l'artérite syphilitique, et spécialement de sa forme aigue. *Thèse de Paris*, 1884.

Benni. *Bull. de la soc. anat. de Paris*, 1867, p. 518.

Bouveret, M. L. *Lyon médical*, No. 23, 1884.

Brault. Artérite syphilitique hémorrhagique méning. *Soc. anat.*, 1878.

Cabot and Warren. Acute Spontaneous Gangrene of Specific Origin. *Boston Med. and Surg. Journ.*, 1880, p. 156, vol. ii.

Cornil and Ranvier. *Manuel d'histologie path.*, 1869–'73, p. 555.

Déjérine and Leloir. *Arch. de physiol. norm. et pathol.*, 1881.

Despres. Syphilis; gangrène spontanée. *Revue de chir.*, 1884.

Duplay. *Annales de dermatologie et de syphilis*, 1884.

Estlaender. *Archiv für Chirurgie*, vol. xii.

Fox. *Trans. of the Clin. Soc.*, 1889, p. 412.

Friedlaender. *Ctrlbl. für die med. Wiss.*, January 22, 1876.

Goldschmidt. *Revue de médecine*, Paris, 1887, pp. 401–419.

Gould, P. *Clin. Soc. of London*, Meeting of February 8, 1884.

Gull and Sutton. *Medico-chirur. Trans.*, vol. lv, p. 273.

Gull and Sutton. *Trans. of the Path. Soc.*, vol. xxviii, 1877.

Hadden. *Lancet*, 1888, p. 571, vol. i.

Hochenegg. *Wiener med. Jahrbücher*, p. 569, 1885.

Hutchinson. *Med. Times and Gazette*, p. 347, 1884, vol. i.

Klotz, H. G. *American Journal of the Medical Sciences*, August, 1889.

Klotz, H. G. *New York Medical Journal*, October 8, 1887.

Leudet. *Clinique de l'Hôtel dieu de Rouen*, 1874.

Langenbeck. *Arch. für klin. Chir.*, vol. xxvi.

Leyden. Gesell. der Charité Aerzte. *Berl. klin. Woch.*, 1890.

Mauriac. Artéropathies syphilitiques. *Arch. gén. de méd.*, 1889, pp. 513 and 683.

Morgan, J. E. *Lancet*, 1889, vol. ii, p. 9.

Mounstein. *Inaugural Dissertation*, Strassburg, 1884.

Ornellas, Baron d'. *Annales de dermatol. et de syphil.*, p. 35, 1888.

Pitres and Vallard. *Archives de physiologie*, 1885.

Petit and Verneuil. *Revue de chirurgie*, 1883, pp. 1, 18, 161.

Ransom. *Brit. Med. Journ.*, 1889, p. 1063, vol. i.

Raynaud, Maurice. *Thesis*, 1862.

Raynaud, Maurice. *Archives générales de méd.*, 1874, pp. 5, 21, 189, 206.

Saundby. *Journal of Anatomy and Physiology*, London, 1882–'83, p. 182–187.

Schuster. *Arch. für Dermatologie und Syphilis*, 1889, p. 779.

Verdelle. *Journal de médecine de Bordeaux*, 1882.

Wilks. On Syphilis of the Internal Organs. *Guy's Hospital Reports*, 1863.

Weaver, J. J. *Lancet*, 1888, p. 858, vol. i.

Walsham, J. W. *Lancet*, 1888, p. 571, vol. i.

Weiss. *Wiener med. Presse*, 1882, and *Wiener Klinik*, 1882.

Wigglesworth. *Trans. of the Path. Soc.*, vol. xxxviii, 1887. p. 61.

PERTAINING TO THE
TREATMENT OF TUBERCULOSIS PULMONALIS
THROUGH THE MEDIUM OF A LOCAL THERAPY.

By HUGO J. LOEBINGER, M. D.

Relating to the communication recently published by me regarding a new local therapy in pulmonary consumption, I assume the liberty of appending thereto the description of two further cases at the present time under my treatment.

First of all it seems not irrelevant, in answer to the natural question whether, in the face of the communications coming in from all sides concerning the results attained through "kochine," a local therapy may not appear rather antique, even unscientific and superfluous. Nothing is more remote from my mind than to express myself respecting the scientific or practical value of Koch's method; that is left for others and chosen ones to determine.

Personally, it seems to me that, relative to the standing query, the principal question involving the specific has been positively and firmly established.

Judging from all accounts published up to date, a fluid presumably generated by the bacilli tuberculosis possesses a specific effect upon the living tuberculous tissue. And this effect is not merely a specific test, but also, so far as clinical observation has been permitted, a cure, most clearly accentuated where it is a matter of simple and unadulterated tuberculosis, as in lupus, in tuberculosis of the lymph glands, and in tuberculous affection of the bones and joints.

A priori, in such cases, and in fact in generally the most interesting tuberculosis (that of the lungs), there is naturally expected a specific cure—assuredly, a specific reaction—an expectation, apropos of the latter clause, which the results of the past few weeks have substantiated.

Respecting the therapy, the necessity is nevertheless placed before us of determining more scientifically and accurately than heretofore whether ordinary pulmonary consumption, particularly in its somewhat advanced stages, is a purely tuberculous disease. To the latter query even the medical press does not give sufficient weight and attention. In cases of destructive pulmonary consumption with cavities, etc., that divers specimens of micro-organisms are met with in the diseased portions and in the sputum, appears perfectly self-evident. It is customary, however, to consider these as accidental or as insignificant vegetations. To me it does not appear at all questionable concerning the bacilli tuberculosis, which, by reason of the manner of coloring, present themselves so vividly under the microscope, and which are alone sought after in phthisical sputum, with which we rest so satisfied, and with the pure cultures we have inoculated, that other pathogenic micro-organisms are overlooked.

It may not be amiss at this point to call attention to several earlier works which treat of micro-organisms in the cavities and in the sputum of phthisicals—viz., those by Seth Evans, Biondi, Netter, Nikiforoff, *et al.*, who could distinguish between the pathogenic infection germs found in healthy, or bronchitic, or otherwise affected sputum, rather more through inoculation tests; not so well by means of pure cultures, for permit me to call attention to the fact that there are also bacteria lacking the appropriate medium of culture.

A new study by Sergio Pansini is worthy of special mention, containing investigations in the bacteriological laboratory of the Biological Institute at Naples concerning micro-organisms found in the sputum of consumptives. Several attempts are here briefly referred to; for example:

After Pansini had obtained from cavernous sputum the specific pure culture of the micro-organism of malignant œdema, he found that inoculation upon guinea-pigs two days later was followed by quick death, with all the symptoms of the reddish skin swellings, clogging of the spleen, and œdema of the lungs. In divers skin sections he could trace the bacillus of malignant œdema. A further example is the following: Out of ten rabbits inoculated with cavernous sputum, three died with septicæmia caused by the Weichselbaum-Fraenkel *Diplococcus pneumoniæ*, three from foul abscesses, and the rest from tuberculosis. Two chickens, into the femoral artery of which were injected a cubic centimetre of cavernous expectorate, did not become tuberculous; they became, however, affected with two large abscesses in the lungs, true caverns (which were, of course, free from *Bacillus tuberculosis*).* Therefore, in order to cure pulmonary consumption by means of inoculation of specific bacillus products, it would not appear absurd to employ many different lymphs.

Another question is whether, as was intimated in my first essay, it would not be advisable to combine the Koch cure with some local therapy, only that I would to-day advise greater caution.

I here follow, regarding the Koch cure for consumptives, the remarks of an author who, after numerous tests, having at hand a large amount of material and backed by long experiences, is assuredly distinctly qualified to speak—namely, Dr. F. Wolff, the director of the most famous hospital for consumptives in Europe, the Bremer Institute.

In the number for December 11, 1890, of the *Deutsche medicinische Wochenschrift* he expresses himself about as follows: Great as is the diagnostic value of Koch's method, so great must be the caution, in consideration of the combination recommended by Koch himself of his method with the previously so splendidly proved therapy, practiced in the Bremen Sanitarium. Especially had he to chronicle unpleasant results, in cases where the old method effected a partial cure, after the application of Koch's treatment.

Old, incased portions in the seat of disease, after so-called minor test inoculations to determine its cure definitely, remaining without reaction, were, after increased doses of the "lymph," followed by reaction, with resultant serious illness—namely, pneumonia—which necessitated a protracted treatment, and in one instance even ended fatally.†

After all this, a local therapy does not appear to me superfluous. At any rate, what results may be possible of attainment with such can be perceived from the recital of two cases now undergoing treatment by me, regarding which, however, I wish to state that, on account of the comparatively short time of treatment, the patients are not yet wholly cured.

Case I.—Mrs. S., of New Haven, Conn., thirty-four years old, mother of five children; always was very weak. Since her last confinement, two years and a half ago, ailing; for the past two years, evidences of lung symptoms. The latter disease, from its inception, advanced rapidly. Mrs. S. is failing visibly, in consequence of permanent cough with copious expectoration, hectic fever, night sweats, diarrhœa, etc.

Condition on December 18, 1890.—The entire anterior and posterior portions of the thorax showed destructive processes; on the left side, in the vicinity of the second and third intercostal spaces, penetrating cavities; expectorate specific, in the form of rolled coin, and containing bacilli tuberculosis. Then treatment by means of my method of insufflation (admixture of powder and ethereal oils—the latter for the purpose of evaporation in the inner affected portions, through the body temperature, a so-called "secondary internal inhalation") resulted in a change—though not in a continual change—in the quantity and quality of the expectoration, whereby the cough became drier and rarer and the night sweats grew less frequent.

---

* I am privately informed through an authentic source that Dr. Cornet, Professor Koch's assistant, has found a new bacterium in cavernous sputum, which has proved extremely poisonous and specific, and is distinguished from all others by developing green pure cultures. His account of it will shortly appear.

† My personal experience with the "lymph" I shall publish shortly.

In spite of this, the general health during the first four weeks remained poor, and periodically severe pains in the breast were felt.

A pause of several days was made during which, momentarily, there was very copious expectoration; treatment being again resumed, there was evidenced a slow and steady improvement. The same was first most remarkably discovered in the sputum: instead of the so-called nummular sputa, it was shown scattered, gradually assuming a confluent purulent appearance, then a muco-purulent phase, and it soon became entirely muco-liquid, and so remained, showing but rarely denser particles, which generally were the places for finding the bacilli; also the quantity of expectoration became remarkably lessened. Where formerly the patient required an entire saliva-bottle (of the Dettenweiler style), she now hardly covers the bottom with sputum.

After this the objective symptoms in the chest were also vastly improved. No cavernous symptoms; everywhere evidence of consolidation. With the exception of single places where there were heard distinct rattling sounds, there is now heard throughout weakened vesicular respiration.

Patient now eight weeks under my care; has greatly improved in appetite; walks with ease several blocks to my office; sleeps well, coughs only in the morning, and altogether has gained four pounds (weighing 116 pounds, instead of as formerly 112 pounds).

Case II.—Mr. V., forty years old, tall; has passed a year and a half in poor health; his illness began with hoarseness and cough, gradually presenting symptoms of decided progressive phthisis. His bodily strength rapidly diminished and he returned from Bermuda, where he had spent the past winter, a deathly sick man. In the month of June I saw him for the first time; he was in bed and very ill. After recovering somewhat he went to Saranac Lake, and remained there several months without, however, attaining the hoped-for restoration of health.

The first consultation occurred in my office on the 29th of November, 1890, after his family physician had prognosticated that he had but a short time to live. The diagnosis "phthisis" he brought with him from the highest and best authorities. He was so ill that he fainted several times during the examination. Examination showed the entire right side of the chest-wall much sunken, and the corresponding lung in its totality diseased; also on the left side, externally and posteriorly, small portions affected. The patient complained of exceedingly troublesome cough with copious expectoration; pains in the chest; also fever and night sweats, accompanied by extreme bodily lassitude. Notably remarkable was the further fact that Mr. V. was almost aphonic. Laryngeal examination disclosed considerable pear-shaped swellings of both arytænoid cartilages and œdema of the arytæno-epiglottic ligament, especially on the right side. Both vocal cords were much thickened and inflamed. The diagnosis based thereupon, tuberculosis of the larynx, made it unadvisable to begin treatment with the local therapy in the lungs. An improvement in the symptoms of the larynx was not by any means an ultimatum; on the contrary, the treatment, on account of the possible irritation, would be apt to prove injurious to the larynx. Notwithstanding, treatment was begun December 1, 1890.

Though the patient felt the powder in his throat in the course of the first few insufflations, there was no appearance of irritability, and a continuance of the treatment seemed permissible. During the first few days expectoration remained undiminished. Commencing with the sixth day of treatment, on which day a successful insufflation into the lungs took place, the picture almost instantaneously changed, and disclosed in the patient, from day to day, a rapid improvement of all symptoms, as well as in general health and appearance, causing gratified astonishment equally to myself and his friends, and not the least to the patient himself.

The patient experienced, after every insufflation, an extremely agreeable and cooling sensation in his chest, respiration immediately becoming freer and stronger. Expectoration improved steadily as to quality and quantity; the cough lessened to almost a minimum; the night sweats ceased; and the appetite and bodily vigor perceptibly increased.

The patient again began to attend to business, showing after a fortnight a gain of fourteen pounds. The most remarkable feature was, the patient began to speak more distinctly, hoarseness disappearing, and the voice becoming clear. Repeated laryngeal examinations, undertaken during the time, disclosed a decrease in the swelling of the arytænoid cartilage; the vocal cords were more discernible than before; on the left side of the vocal cord, fluttering particles were observed, which, after a time, entirely disappeared.

At the present time there exists rather severe infiltration of the right arytæno-epiglottic ligament; the vocal cords are inflamed, slightly thick, on the left side somewhat ragged.* Further examination discloses in the lower portion of the right side, from about the third intercostal region, purer though rather weak respiration, pointing to the beginning of consolidation and ultimate cure.

As the patient, at the beginning of the treatment, was afflicted with sciatica of the right side, interfering with a stooping position during the process of insufflation, the powder was insufflated only to the lower lobe, partially to the middle lobe. And here the improvement took place; the upper lobe, not yet reached, seems but insignificantly improved. Thus it will be seen that step by step the local improvement may be traced. Now that patient is almost freed from sciatica and able to assume a more decidedly forward and side-stooping position (compare my first essay), the right upper lobe may be included in the treatment, and here also the prospects promise a happy result.

What the condition of the patient is during the continual improvement of the local affection has been above intimated.

Mr. V. is, in his present state of physical and mental vigor, compared to his former condition, scarcely recognizable, and professes to feel stronger than he felt before he became ill. At the beginning of the treatment his weight was one hundred and thirty-five pounds; he now weighs one hundred and fifty-nine pounds.

1055 Lexington Avenue.

The Brooklyn Surgical Society.—At the meeting of Thursday evening, the 5th inst., the special order was a paper entitled The Influence of Public Opinion on Surgical Practice, by Dr. E. A. Lewis.

---

* As supplementary to the foregoing, I must add that the infiltration of the arytæno-epiglottic ligament has almost entirely disappeared, and that the larynx now shows merely the appearances of a simple catarrh. This I attribute to the action of the volatile oils in their passage through the larynx.

MUSCULAR ASTHENOPIA.

By J. H. WOODWARD, M. D.,
BURLINGTON, VT.,
PROFESSOR OF OPHTHALMOLOGY AND OTOLOGY IN THE UNIVERSITY OF VERMONT.

"Working exactly on the lines of Donders's discoveries, muscular asthenopia should be expurgated from ophthalmic nomenclature." * "Ametropia, and not hypermetropia, alone is at the bottom of asthenopia." †

Prior to the promulgation of this doctrine, it was the generally accepted opinion of ophthalmologists that the causation of asthenopia is twofold; that the larger number of instances of it are dependent upon an error of refraction, especially upon hypermetropia and astigmatism; that another set of cases, less numerous than the former, depend for their symptoms upon some weakness or faulty tension in the extrinsic muscles of the eyeball. Had this new doctrine emanated from a less distinguished source, there would perhaps be no apparent justification for further discussion of the matter. Allowed to stand unchallenged and uncontroverted, the doctrine will, I believe, prove harmful to many deserving patients in whose interest the following considerations are submitted.

The *a priori* argument demonstrating the existence of muscular asthenopia has much to commend itself to the scientific mind. Take, for example, the patient whose eyes are emmetropic but whose ocular muscles are not in a state of normal equilibrium, one pair of which are, we will say, relatively weaker than their antagonistic muscles. Such a patient will not manifest the symptoms of accommodative asthenopia, but in the act of binocular fixation at the reading distance he will be compelled to throw an excessive nervous energy into the weakened recti muscles in order that he may preserve single and distinct vision. This necessity produces waste of nervous energy, and if this waste be sufficient, the patient will experience some annoyance or distress while reading or writing. Some attempts have been made to vitiate the force of this reasoning by raising doubts as to whether the state of "normal equilibrium" of the ocular muscles may be said ever to exist. ‡ It may be admitted, for it is true, that muscular power in the same eyes is not fixed, but is variable. This variation, however, must be confined within narrow limits, for otherwise binocular fixation could not be attained without making appreciable demands upon the patient's nervous energy. There is clinical evidence in abundance to show that patients may be unconscious of any ocular disturbance even though an esophoria of one or two degrees may be a persistent defect, while at the same time the abduction may be only five or six degrees. A hyperphoria of one degree may be an every-day defect, and yet the patient be able to use his eyes as much as he likes without annoyance or distress. These facts, however, do not prove that esophoria or hyperphoria are not sometimes the underlying cause of the pain and discomfort which are so often induced by excessive use of the eyes. The patient is able to supply sufficient energy to overcome these defects, and he sustains this waste, unconscious of evil consequences. There may come a time in his life when his nervous system is no longer able to endure the strain put upon it, and then the error in his ocular muscles is manifested in the symptoms of asthenopia. An analogous history is often presented by hypermetropes. For years the patient is able to read or write as much as he likes, without a suspicion of abnormity in his visual apparatus. He is able to supply the necessary energy to the muscle of accommodation which will neutralize the hypermetropia. In such cases, also, there may come a time when the nervous system is no longer able to furnish this energy in sufficient amount, and the patient then complains of accommodative asthenopia. These facts are observed daily by every oculist; and if these things are true of accommodative asthenopia, how can it reasonably be said that they are untrue of a similar condition—namely, muscular asthenopia?

Furthermore, it is maintained that the cause of insufficient muscular action, or heterophoria, is to be found in errors of refraction.* From this we would naturally deduce the statement that correction of the refractive error would be followed by disappearance of the muscular insufficiency. Now, the determination of hypermetropia and myopia is thoroughly understood by every competent ophthalmologist, and when the accommodation is paralyzed with atropine, the degree of the myopia or hypermetropia may be estimated with great accuracy. There is, of course, one source of fallacy in this method which will probably never be obviated, and that is the personal equation of the patient. By the personal equation of the patient we mean his degree of ability to perceive things exactly as they are. The determination of astigmatism is not as clearly understood as might naturally be expected, but it may be detected with the same degree of certainty as are the other errors of refraction and by the same method. The ophthalmometer of Javal does not simplify the problem, nor does it make the observation more trustworthy. In order that the curvature of the cornea may be correctly measured by that instrument, the observer must have become very skillful in detecting the slightest changes in the image cast upon the cornea, at best badly illuminated, and under conditions favorable to fallacious observation. The correct measurement by this means does not inform us whether the astigmatism is hypermetropic or myopic, whether it is simple or compound; but, in order to positively determine which of those varieties actually exists, the accommodation must be paralyzed and the trial lenses put before the patient's eyes.† There are, then, no new methods for detecting the errors of refraction which may supersede the old; and it may be safely asserted that a careful observer, working on the lines laid down by the modern writers on ophthalmology, will be able to detect an error of refraction, if one actually do exist. The error of refraction having been measured, the correction of it readily follows.

---

* D. B. St. J. Roosa, Muscular Asthenopia. *Ophthalmic Review*, October, 1890, p. 283.

† *Ibid.*, p. 285.

‡ D. B. St. J. Roosa, The Relation of Errors of Refrac. and Mus. Insuf. to Functional Nervous Diseases. *New York Medical Journal*, April 19, 1890, pp. 427 and 428; *Ophthalmic Review*, October, 1890, pp. 284 and 285.

* *Ophthalmic Review*, October, 1890, p. 285.

† Swan M. Burnett, *Astigmatism*, 1887, sections 154 and 160, pp. 131 and 136.

Finally, it is unquestionably true that the record books of hundreds of ophthalmologists contain thousands of cases in which the error of refraction has been properly corrected, but the disappearance of the error in the ocular muscles has not ensued as a consequence.

The correction of the anomalies of the ocular muscles may be made by resorting to either prisms or operative interference. As a general therapeutic measure, prisms, as a rule, are unsatisfactory. In a certain proportion of cases, however, they serve our purpose very well. The operative measures for relief are tenotomy and advancement of the tendon of one or more of the ocular muscles. The treatment of muscular insufficiencies by tenotomy in the time to which Donders refers in his writings was extremely unsatisfactory. For that there are two sufficient reasons: first, the rudimentary principles underlying the visual act had not been discovered; second, the tenotomies were radical operations which necessarily destroyed the equilibrium of the ocular muscles. The modern operative methods are radically different from those employed at that early date, and they are based upon a much more thorough understanding of the visual apparatus than has been hitherto obtained. As a consequence, then, the results of these modern operations, when performed by a competent person, are, as a rule, eminently satisfactory. In fact, it may be positively asserted that in all the range of surgery there is no operative procedure the outcome of which is more encouraging than the operation of graduated tenotomy. But, necessarily, to secure these results, the operator must be a master not only of the technique of the operation, but he must also comprehend the conditions of the problem the solution of which he is about to attempt.

As a contribution to the *a posteriori* argument bearing upon the question of muscular asthenopia, the following cases are submitted.

For obvious reasons, it has been thought best to give the histories in detail. The methods of examination, the terms employed in describing the anomalies of the muscles, and the operative treatment are such as have been devised by Stevens.*

Case I.—Dr. W. W. S., Essex, Vt., March 26, 1889. Smarting and burning in eyes; slight pain in the right eye; during past year, when tired or excited, head spasmodically jerks to the left. R. V. = $\frac{20}{200}$, L. V. = $\frac{20}{200}$. Is wearing S. − $\frac{1}{8}$ for each eye, which gives him V. = $\frac{20}{30}$ in each.

Exophoria 4, in accommodation 6, abduction 7, adduction 35, R. hyperphoria 1. Media clear, fundus normal, myopia. During examination patient's head jerked to left so frequently that he was obliged to hold it with both hands, so that I could make the necessary observations.

Prism 1°, base down, before O. D. stopped the spasmodic jerking of head.

Prescribed prism 1°, base down, before right eye, to be worn over his spectacles.

March 30, 1889.—Has worn prism one third of the time since last visit. No burning sensation in eyes, less nervous; jerking of head much less marked; he thinks it has stopped. Has used more tobacco than usual. Exophoria, 6; in accommodation, 11 > 12; abduction, 7; adduction, 39; R. hyperphoria, 2. Ordered prism 2°, base down, for O. D. Head jerked to the left three times during examination (half an hour).

April 12th.—Eyes do not burn; less nervous; jerking of head has practically ceased. Has worn prism 2°, base down, before O. D. since last visit. R. hyperphoria 3½. Graduated tenotomy of right sup. rectus. Immediate result = overcorrection one degree, or L. hyperphoria one degree.

18th.—No jerking of head since last visit. Some burning in eyes. L. hyperphoria 1°.

27th.—Head has jerked half a dozen times since last visit; feels nervous and irritable. L. hyperphoria 1°. Graduated tenotomy of right inf. rectus. Immediate result = L. hyperphoria ¼°.

May 20th.—No jerking of head; slight burning sensation in eyes occasionally. Marked improvement in nervous symptoms. L. hyperphoria 0.

February 24, 1890.—Exophoria, 4; abduction, 7; adduction, 44. After wearing prism 3° base in for two hours, exophoria 8, abduction 9.

March 13th.—Exophoria, 5; in accommodation, 3; abduction, 7; adduction, 42; sursumduction, R. 4, L. 4.

27th.—Ordered for constant use, O. D. S. − $\frac{1}{8}$; ⌊ prism, 1½°, base in; O. S. S. − $\frac{1}{8}$; ⌊ prism, 1½°, base in.

December 9th.—He writes: "My head jerks very little now. If I get excited or very tired it increases in its movements. Very seldom do I bend my head over, as in auscultating or such work, but what it will jerk two or three times. The burning of eyes is only occasionally felt, whereas before the tenotomy and prisms were used I was in almost constant trouble from this symptom. I can use my eyes with comfort in reading, and appreciate it highly."

Case II.—Mrs. W. F. F., Burlington, Vt., April 1, 1889. Has always suffered with headache, pain in occipital region, especially after using eyes. Has had two attacks in which she was nearly unconscious, followed by numbness of left arm. Both attacks began with severe headache in occipital region. All of her symptoms have been more marked during the past year. Vertigo and diplopia when tired. R. V. = $\frac{20}{20}$. L. V. = $\frac{20}{20}$. R. C. + 0·50 D., ax. 180, V. = $\frac{20}{20}$. L. S. + 1·00 D., V. = $\frac{20}{20}$. Right hyperphoria, ½; esophoria, in accommodation, ½; abduction, 8; adduction, 12.

2d.—R. V. = $\frac{20}{20}$; C. + 0·75, ax. 180, V. = $\frac{20}{20}$. L. V. $\frac{20}{20}$; C. + 0·50, ax. 180, V. = $\frac{20}{20}$. Right hyperphoria, ¾; esophoria, 1; in accommodation, ½; abduction, 8; adduction, 10.

5th.—R. V. $\frac{20}{20}$; C. + 0·25, ax. 180, V. $\frac{20}{20}$. L. V. $\frac{20}{20}$; C. + 0·25, ax. 180, V. = $\frac{20}{20}$. Left hyperphoria, ¼; esophoria, 1; in accommodation, 2; abduction, 6; adduction, 12.

8th.—R. V. $\frac{20}{20}$; C. + 0·50, ax. 180, V. = $\frac{20}{20}$. L. V. $\frac{20}{20}$; C. + 0·50, ax. 180, V. = $\frac{20}{20}$. Objected to atropine; ordered C. + 0·50, ax 180, for each eye. Relief was partial when she used glasses for reading, sewing, etc., and reported complete in October, 1889, after using them constantly.

February 15, 1890.—Parturition three months ago. Since then has not been able to use her eyes at all for near work. Suffered all day yesterday with headache; after dinner pain became nearly unbearable; feeling of numbness all over body extremities cold. R. V. = $\frac{20}{15}$. L. V. = $\frac{20}{15}$. Esophoria, in accommodation, ½; abduction, 7; adduction, 20. Ordered atropine. No albumin in urine.

24th.—Eyes under atropine. R. V. = $\frac{20}{70}$, S. + 1·00 ⌊ C. + 0·50, ax. 90, V. = $\frac{20}{20}$. L. V. = $\frac{20}{70}$, S. + 1·00, ⌊ C. + 0·75, ax. 90, V. = $\frac{20}{20}$. Esophoria, 11 > 12; abduction, 6.

---

* George T. Stevens, Anomalies of Ocular Muscles. Knapp's *Archives of Ophthalmology*, 1887, p. 149 *et seq.*; 1888, p. 155 *et seq.*; 1890, p. 371 *et seq.*

25th.—More atropine. R. S. + 1·00, ⌊ C. + 0·50, ax. 90, V. = $\frac{20}{20}$. L. S. + 1·00, ⌊ C. + 0·50, ax. 90, V. = $\frac{20}{20}$. Right hyperphoria, $\frac{1}{2}$; esophoria, 8; abduction, 5; adduction, 22. Ordered cylindrical correction.

April 8th.—Right hyperphoria, 1°.

10th.—Moderately severe headache.

12th.—Right hyperphoria, 2°; asthenopia marked in spite of her glasses.

15th.—Right hyperphoria, 2°; exophoria, $\frac{1}{2}$; exophoria, in accommodation, 1°. Ordered prism $\frac{1}{2}$° before O. S. base up.

19th.—Right hyperphoria, 1$\frac{1}{2}$.

22d.—Right hyperphoria, 2$\frac{1}{2}$; esophoria, $\frac{1}{2}$; abduction, 4; adduction, 25. After exercise, esophoria, 6°. Graduated tenotomy right sup. rectus, leaving hyperphoria 0.

26th.—Hyperphoria, 0; abduction, 7; adduction, 25.

June 17th.—One headache in top of head since operation. Advised to wear glasses constantly. Hyperphoria, 0; abduction, 7; adduction, 28.

November 18th.—Hyperphoria, 0; exophoria, 1; in accommodation, 4. Has not had a severe headache since the operation. Twice since operation has had dazzling before eyes, with headache. Vision blurred for about an hour before headache began. The pain was across forehead and through temples. Symptoms in back of head and neck are cured. Feeling of chilliness on left side of head from time to time. Sensation of confusion in head all gone. Has had no attack resembling old seizures. Can use her eyes comfortably as much as she pleases.

Case III.—Miss A. F., Jonesville, Vt., January 4, 1889. Constant headache; pain in eyes when she attempts to read. Anæmic; palpitation of heart on slightest exercise; choreic movements of shoulders, well marked; sleep is troubled; feels tired all the time. Menstruation regular, painless, but profuse. Obliged to give up school, owing to eyes and general health. R. V. = $\frac{20}{20}$. L. V. = $\frac{20}{30}$. Hyperphoria, 0; esophoria, 1; in accommodation, 3; abduction, 6; adduction, 18.

8th.—R. V. = $\frac{20}{20}$ —, S. — 0·25, ⌊ C. — 0·50, ax. 90, V. = $\frac{20}{20}$. L. V. = $\frac{20}{20}$ —, C. — 0·50, ax. 90, V. = $\frac{20}{20}$. Hyperphoria, 0; esophoria, 2; in accommodation, 7; abduction, 4; adduction, 18.

9th.—R. V. = $\frac{20}{30}$, C. — 0·50, ax. 90, V. $\frac{20}{20}$. L. V. $\frac{20}{30}$, C. — 0·50, ax. 90, V. = $\frac{20}{20}$. Esophoria, 8; in accommodation, 9; abduction, 4; adduction, 18.

10th.—R. V. = $\frac{20}{20}$, C. — 0·50, ax. 90, V. = $\frac{20}{20}$. L. V. = $\frac{20}{30}$ +, C. — 0 50, ax. 90, V. = $\frac{20}{20}$. Esophoria, 6; in accommodation, 9; abduction, 2; adduction, 20. Ordered above-described cylinders.

February 26th.—Has had two severe headaches in one week; worst she ever had. Eyes feel less strained, but head aches constantly. Muscles do not twitch quite as much. Esophoria, 8; in accommodation, 12; abduction, 5; adduction, 20.

27th.—Esophoria, 9; in accommodation, 12; after examination, homonymous diplopia with red glass; abduction, 0; adduction, 38. Graduated tenotomy of left internal rectus. Immediate result, esophoria, 2; abduction, 6.

28th.—Hyperphoria, 0; esophoria, 12; in accommodation, 20; abduction, 5. No headache; some vertigo.

March 1st.—Hyperphoria, 0; esophoria, 6; in accommodation, 12; abduction, 5; adduction, 38. No headache, feels better, less nervous, and slept well last night.

2d.—No headache since operation; sleep normal in every respect. Very slight twitching of muscles; is much more cheerful, and mother says she is much improved.

4th.—Sleep normal; no twitching of muscles; very slight headache in temples; may be due to coryza. Esophoria, 2; in accommodation, 10; abduction, 6. Ordered Fowler's solution and bitter wine of iron.

5th.—Could not take prescription; ordered it discontinued. Severe pain in O. D. last night; obliged to go to bed; sleep troubled. R. V. = $\frac{20}{20}$ —, C. — 0·50, ax. 90, V. = $\frac{20}{20}$; L. V. = $\frac{20}{20}$, C. — 0·50, ax. 90, V. = $\frac{20}{20}$. Esophoria, 6; in accommodation 9; abduction, 4. Atropine. Accommodation paralyzed. R. V. = $\frac{20}{20}$ —, C. — 0·25, ax. 90, V. = $\frac{20}{20}$; L. V. = $\frac{20}{30}$, S. — 0·50, V. = $\frac{20}{20}$.

6th.—R. V. = $\frac{20}{20}$, C. — 0 25, ax. 90, V. = $\frac{20}{20}$; L. V. = $\frac{20}{25}$, S. — 0·50, V. = $\frac{20}{20}$. Hyperphoria, 0; esophoria, 2; abduction, 5 > 6; adduction, 19. No headache.

8th.—Esophoria, 2; in accommodation, 14; abduction, 6; adduction, 37.

18th.—Has had slight headache every other day; sleeps well; appetite good; no twitching of muscles lately. Esophoria, 4; in accommodation, 9; abduction, 4; adduction, 38.

19th.—Esophoria, 5; in accommodation, 12; abduction, 4. R. V. = $\frac{20}{20}$; L. V. = $\frac{20}{20}$. Graduated tenotomy of right internal rectus. Immediate result, esophoria, 0; exophoria, 0; in accommodation, 0; abduction, 8.

20th.—Esophoria, 0; in accommodation, 0; exophoria, 0; in accommodation, 0; abduction, 8.

22d.—No headache; does not feel nervous; some vertigo. Ordered her to discontinue glasses. Esophoria, 1 (?); in accommodation, 8; abduction, 8; adduction, 40. R. V. = $\frac{20}{20}$; L. V. = $\frac{20}{20}$.

May 4th.—Headache about once a week; palpitation less marked; less easily put out of breath; reads without pain; more ambitious; some dyspepsia. R. V. = $\frac{20}{20}$; L. V. = $\frac{20}{20}$. Esophoria in accommodation, 6; abduction, 7; adduction, 39.

June 20th.—Some headache; feels pretty well, some days perfectly well; still some palpitation; no twitching of muscles. Exophoria, 1; in accommodation, 0; abduction, 8; adduction, 32. Faradized ocular muscles once only. Ordered 100 three-grain Blaud's pills.

September 12th.—Very much improved; sleeps well; much less headache; no twitching of muscles; seldom has palpitation; some pain through eyes and forehead; has taken 100 three-grain Blaud's pills. Esophoria in accommodation, 5; abduction, 6 > 7; adduction, 44. R. V. = $\frac{20}{20}$; L. V. = $\frac{20}{20}$. Ordered prism 3°, base out, for reading; also ordered tablets of iron and arsenic, which disagreed with her immediately, and she never took more than three doses of them.

November 8th.—Esophoria, 2; in accommodation, 5; abduction, 4 > 5; adduction, 40. Very little headache; feels well, looks very well. Has used the prism for reading a part of the time. To discontinue the practice.

December 8, 1890.—Patient reported to-day that she is able to attend school and use her eyes as much as necessary. Says she is perfectly well and does not suffer from headache, but if she uses her eyes excessively in the evening she is apt to have some headache. She does not wear glasses.

Case IV.—Miss B. P. W., Waterbury, Vt., March 25, 1889. Sight blurs; lids twitch; nearly constant headache; pain located over eyes and through temples. Anæmic; easily put out of breath. Menstrual function normal. R. V. = $\frac{20}{30}$; L. V. = $\frac{20}{40}$. Atropine ordered.

26th.—R. V. = $\frac{20}{20}$ —, C. — 0·25, ax. 180, V. = $\frac{20}{20}$; L. V. = $\frac{20}{20}$ —, C. + 0·25, ax. 90, V. = $\frac{20}{20}$; esophoria, 1; abduction, 7; adduction, 42; L. hyperphoria, $\frac{1}{4}$.

27th.—R. V. = $\frac{20}{30}$; S. + 0·25, ⌊ C. + 0·25, ax. 90, V. = $\frac{20}{20}$; L. V. = $\frac{20}{40}$; S. + 0·25; ⌊ C. + 0·25, ax. 90, V. = $\frac{20}{20}$. Esophoria, 9; abduction, 7; adduction, 42. Ordered C. + 0·25, ax. 90, for each eye.

April 13th.—Headaches and other symptoms unchanged by treatment. Esophoria, 1 > 2; in accommodation, 2 > 3. Ordered Blaud's pills, āā gr. v, t. i. d.

15th.—Esophoria, 4; in accommodation, 3; abduction, 5; adduction, 29.

17th.—Esophoria, 4; in accommodation, 4; abduction, 7; adduction, 34. Headache every day. To-day the pain is severe.

20th.—Esophoria, 9; in accommodation, 6; abduction, 6; adduction, 36.

23d.—Esophoria, 3; in accommodation, 3; abduction, 7; adduction, 42.

May 6th.—Pain in left eye only.

September 4th.—Headaches began to return three weeks ago. Pain in top of head. Sensation of pricking in her eyes. Anæmia again becoming more marked, and she is more easily put out of breath than at last visit. No treatment since last visit, but has worn the glasses constantly. Ordered Bland's iron again. Esophoria, 4; in accommodation, 2; abduction, 7; adduction, 20.

January 2, 1890.—Headache nearly constant. Pain in left side of head; pain in right eye for two weeks. Easily put out of breath, but does not appear to be anæmic. Has taken Blaud's iron since last visit excepting the past week. During the past six months has taken about 400, gr. v, Blaud's pills. Esophoria, 6; in accommodation, 4; abduction, 5; adduction, 49. After taking the adduction, homonymous diplopia with red glass. R. V. = $\frac{20}{20}$ —; L. V. = $\frac{20}{30}$.

3d.—Esophoria, 6; in accommodation, 4 > 5; abduction, 6.

4th.—Esophoria, 8; in accommodation, 4; abduction, 5. Graduated tenotomy of right int. rectus. Immediate result, esophoria, 4; abduction, 8 > 9.

8th.—Esophoria, 10; in accommodation, 12; abduction, 7.

9th.—Esophoria, 12; in accommodation, 6; abduction, 6. No headache since the operation. Is not wearing glasses now. Prescribed prism 2°, base out, for each eye, to be used in studying or if she has a headache. No medicine.

March 31st.—No headache, but pain over left eye much of the time. Esophoria, 10; in accommodation, 10; abduction, 7; adduction, 25.

April 1st.—Esophoria, 8; in accommodation, 8; abduction, 6; adduction, 35.

2d.—Esophoria, 8; in accommodation, 15; abduction, 6; adduction, 35. Graduated tenotomy of left int. rectus, leaving abduction 8.

3d.—Esophoria, 6; abduction, 7 > 8.

August 14th.—Headaches very much less frequent since the operation. Has used her eyes as much as she wished. Esophoria, $4\frac{1}{2}$; in accommodation, $2\frac{1}{2}$; abduction, 7; adduction, 32. Has taken no medicine.

December 8th.—She writes as follows: "Until within a month I had little or no trouble in reading or studying and had no headache to amount to anything. Then in some way I strained my eyes, and since then have not attended school, and have used them but very little, and I think they are getting stronger again. It is only since I strained them, probably through carelessness, that they have troubled me."

Case V.—Mr. F. A. B., Franklin, Vt., October 25, 1889. Headache after reading. Completely tired out after reading. Obliged to give up college owing to this trouble, which has persisted for several years. His general health is in other respects fairly good. Right eye injured in early life. Occasional diplopia. Says right eye turns in after using his eyes for near work. No relief from treatment by physicians or oculists. R. V. = $\frac{20}{20}$; L. V. = $\frac{20}{20}$. Exophoria, 4; in accommodation, 5; abduction, 11; adduction, 12. Hm. + 0·25 in each eye. Loaned prism 2°, base in, for each eye for near work.

November 29th.—Left hyperphoria, $\frac{1}{2}$; exophoria, 4; in accommodation, 6; abduction, 12; adduction, 10. R. V. = $\frac{20}{20}$; C. + 0·50, ax. 90, V. = $\frac{20}{20}$; L. V. = $\frac{20}{20}$; C. + 0·50, ax. 90, V. = $\frac{20}{20}$.

30th.—Exophoria, 4; in accommodation, 5; abduction, 12; R. V. = $\frac{20}{20}$; C. + 0·50, ax. 90, V. = $\frac{20}{20}$; L. V. = $\frac{20}{25}$; C. + 0·50, ax. 90, V. = $\frac{20}{20}$.

December 2d.—Exophoria, 4; in accommodation, 4; abduction, 12. Graduated tenotomy in right external rectus. Immediate result, exophoria, 0; esophoria, 0; abduction, 6.

3d.—Exophoria, 3; in accommodation, 2; abduction, 8. Under atropine, C. + 0·50, ax. 90, gave normal V. for each eye. Ordered that correction.

February 17, 1890.—Eyes very much improved; do not trouble him much now. Less nervous, no headache after reading, but is sleepy and weary after reading for a number of hours. Exophoria, 4; in accommodation, 5; abduction, 11; adduction, 10.

18th.—Exophoria, 2 > 3; in accommodation, 6 > 8; abduction, 10; adduction, 12. At this examination patient did not show exophoria until it had been developed by prisms—*i. e.*, it was latent. Loaned prisms for exercising the internal recti.

April 26th.—Saw patient to-day. Reports that he can read as long as he wishes without glasses, without fatigue or nervousness. His symptoms have disappeared. He prefers to read without glasses. He exercised the internal recti with the prisms for about four weeks.

October.—Saw patient again. He is still relieved and reads as much as he likes without glasses. He has never worn the glasses constantly.

December 15th.—He writes: "I am able to read without the aid of glasses, having none of those former symptoms of feeling sleepy or tired; also my head does not ache; my health is better, which I attribute to my eyes."

Case VI.—Mrs G. B. A., Burlington, Vt., March 14, 1890. Asthenopia. Headache and nausea and feeling of strain in eyes. The pain begins in forehead and temples, and if she persists in reading or sewing she has pain in the back of her head and a general headache. General health excellent with above exceptions. R. V. = $\frac{6}{5}$; rejects glasses. L. V. = $\frac{6}{5}$; rejects glasses.

Media clear, fundus normal; no error of refraction detected with ophthalmoscope. Right hyperphoria, 1; esophoria in accommodation, $\frac{1}{2}$; abduction, 9. Loaned prism, 1°, base down, for right eye, to use in reading.

March 27th.—No error of refraction detected. Right hyperphoria, 2; exophoria, 4; exophoria in accommodation, 4. To continue with the prism which gives her comfort in reading. Operation proposed; refused.

April 7th.—She received her reading glasses. Right, prism 1°, base down; left, prism $\frac{1}{2}$°, base up.

December 9th.—She writes: "The glasses which you prescribed for me several months ago are satisfactory in every respect. I am able to read with them for any length of time without causing the least uncomfortable feeling in my eyes or head."

Cases II, III, and IV were reported in my paper on Eye-strain and Functional Nervous Diseases, presented at the annual meeting of the Vermont State Medical Society, October 10, 1889. In that report they appear as Cases CXXXVI, CXVII, and CXXXII, respectively. The observations made upon them since October, 1889, seem to me to possess a peculiar interest, and for that reason I venture to lay them before your readers. Should objection arise to the small number of cases reported in support of the ideas expressed in this communication, it may be anticipated by the consideration that space in a medical journal is necessarily limited and that further evidence will be forthcoming if necessary.

THE
NEW YORK MEDICAL JOURNAL,
A Weekly Review of Medicine.
Published by D. Appleton & Co.
Edited by Frank P. Foster, M. D.

NEW YORK, SATURDAY, FEBRUARY 7, 1891.

THE STATE AND THE EPILEPTIC.

On the monument to John Howard, in St. Paul's, London, it is said that the man who devotes himself to the good of mankind treads an open but unfrequented path to immortality. This was true in Howard's time. It is not true in ours. The growth of humane ideas characterizes the nineteenth century. Something in our day has been done for almost every class of the dependent population. Earnest efforts are made to relieve suffering. Time, money, and affection are everywhere lavished freely. Yet in the midst of all this largesse there remains one forgotten man, the epileptic. The condition of this unfortunate is truly pitiable. Often an outcast from his family and left to shift for himself, expelled from schools from motives of expediency, denied industrial employment, shunned to a great extent by companions who fear and dread the sudden and mysterious attacks, left too often to grow up in ignorance and idleness, this unhappy victim of a hopeless and dreadful malady is denied admission into the general hospital when permanent seclusion becomes necessary, and is forced to seek refuge as a last resort in the almshouse or in an insane asylum. Yet the epileptic is endowed by nature with as much intelligence as ordinary human beings, and is capable of education and self-support. To condemn him to the society of paupers and insane people is a cruel injustice. Man's inhumanity to the forgotten man is a blot on modern civilization. It is estimated that there are a hundred thousand epileptics in the United States—a tenth of a million persons suffering for want of combined medical supervision, education, industrial training, and social life, together with recreation and definite physical exercise suited to their condition. A hundred thousand dead weights constitute a heavy burden for the State. From the point of view of social economics, of humanity, of religion, of every-day ethics, and of pure selfishness, it is altogether a mistake to ignore the needs of a large class of innocents who are thus deprived of possibilities by an adverse personality.

There is but one kind of institution that can meet the necessities of those who suffer from epilepsy. No asylum, no large hospital, no single building, whatever its size, is appropriate for the purpose. It must be an establishment combining many unusual features. It must have schools and teachers for the education of the young, offices, shops of all kinds, a dairy, a farm, gardens, and granaries. A group of small hospital and asylum buildings, together with a church, a theatre, a gymnasium, a bathing establishment, a laboratory presided over by skilled pathologists bent upon the possible discovery of the cause and cure of epilepsy, are also among the essentials. Such a place would not be a hospital in the ordinary sense of the term. It would be a village in itself, a colony for epileptics. Already in Germany, Belgium, France, and Switzerland such colonies exist, the outcome of the loving thought and labor of one man. Twenty-five years ago a Lutheran clergyman and social economist, Pastor von Bodelswingh, became alive to the needs of epileptics, and started a model colony on a farm near Hanover, Germany, where three or four patients were first received. Now the little settlement has a thousand inhabitants, happy in the threefold blessings of education, employment, and medical treatment. Fifty-five houses and cottages are scattered in gardens over some three hundred and twenty acres of beautiful woodland and meadow, the whole presenting the aspect of a thrifty village.

America is awakening to its duty in this matter of State care for epileptics. Following the example of Ohio, New York at last remembers the forgotten man. A bill prepared by Dr. Frederick Peterson, of New York, recently presented to the Legislature, aims to secure for the epileptic an environment that will preserve his powers of body and mind, and develop the qualities of both that are essential to good citizenship. We hope that the bill, which we print elsewhere in this issue, will soon become a law, and that it will speedily bring to hundreds now in bitter need of its effective, active operation the training and care essential to their preservation, development, and possible cure. While these unfortunates may not reach positions of eminence under the new dispensation, they will not be debarred from any attainment in education that taste and temperament permit, nor from the exercise of any qualities conducive to their own personal welfare and happiness. For the first time in American history the epileptic will have a fair chance.

MINOR PARAGRAPHS.

DOUBLE AMPUTATION FOR GANGRENE OF ATHEROMATOUS ORIGIN.

Dr. Howard Van Rensselaer writes in the *Albany Medical Annals* for December a note on the pathology of a case of simultaneous double gangrene of the lower extremities requiring double amputation. A farmer, aged sixty-five years, was in April last suddenly taken with numbness, pain, and loss of power, due to embolism of the middle third of the arteries of both legs, and the case went on to complete gangrene of both feet. Amputation was done four months and a half after the embolic attack, and was followed by a good recovery. The patient died suddenly a considerable time after the operation, probably by internal hæmorrhage. After the amputation, an attempt was made to dissect the legs, but, as the gangrene was dry and the parts were atrophied and distorted, it became impossible to follow the course of the blood-vessels. In the absence of an autopsy, also, the explanation of the pathology of this case was thrown back on hypothesis, and this is the plausible theory advanced, namely, that, as the patient was known to have some of his arteries in an atheromatous condition, a calcareous plate in his abdominal aorta was dislodged, and at the end of the aorta broken into two parts, probably nearly equal in size, and that these parts were carried right and left into the iliacs, and thence on into the legs, suddenly occluding the circulation in them. This ætiology received a subsequent substantiation in the sudden death of the patient and in the manner of his taking-off. In an hour after eating a hearty meal he suddenly complained of great pain in the abdomen, went into collapse, and was dead in ten minutes; all of which is readily understood on the supposition that the wall of the abdominal aorta had been thinned and weakened at the point whence the atheromatous plate had been thrown off, six months before, that a rupture took place at that point, and that death resulted by internal hæmorrhage.

MOLLIN, A NEW OINTMENT-BASE.

Dr. Julius Kuhn writes to the *Berliner klinische Wochenschrift*, No. 36, 1890, regarding the objectionable features of some of the ordinary excipients for ointments. Almost all animal fat, he says, becomes rancid; lanolin is too tenacious for inunction purposes, will not dissolve chrysarobin, and will not subdivide mercury fine enough; vaseline is better in some respects, being more permanent, but it takes up some substances with difficulty, and in hot weather is soon too fluid on the skin; moreover, some specimens of it contain so much of impurities as to be irritating to the surface treated. In 1885 Unna pronounced it as his opinion that the best ointment-base was soap, but it has not always been easy to find a pasty soap that would remain unaltered at ordinary temperatures, have penetrating qualities, and mix well with the curative ingredients proposed to be used. A soap has been made by the druggist Carez, called mollin, which is said by Kuhn to meet all these requirements. Mollin appears to be a superfatted soap, holding 17 per cent. of fat in excess. It contains a little cocoa-nut oil and about 30 per cent. of glycerin, besides kidney-fat, tallow, and soda and potash mixed, chiefly the latter. It is said to keep unaltered for years. It is put up in two forms, one a little harder than the other.

THE VITAL STATISTICS OF NEW YORK STATE IN 1890.

The annual mortality-sheet of the New York State Board of Health has appeared for the year 1890, giving the total deaths by eight sanitary districts, by months, and by the usual principal causes. The deaths for the whole State, with a small correction for the non-reported mortality in some rural sections, were 127,630, in a population estimated at 6,000,000; this is equivalent to a death-rate of 19·6 to the 1,000. The mortality from zymotic diseases was less than in recent years, a decline being registered in scarlet fever, diphtheria, typhoid fever, and diarrhœal disorders. Measles showed a marked elevation. Small-pox caused four deaths. Epidemic influenza is estimated to have caused not fewer than 5,000 deaths in the early months of the year, but it did not operate to raise the zymotic mortality, for the reason that a large proportion of its deaths was certified under the head of respiratory and other local causes. There were 18,000 deaths from respiratory diseases, a number greatly in excess of former years; this is non-inclusive of consumption, which was charged with 13,800 deaths. From unclassified causes there were 18,728 deaths.

RAILWAY SURGERY.

Much good has accrued to the condition of railway surgery in the United States by the organization of the National Association of Railway Surgeons. It is less than ten years since the first organization of railway surgeons in the world, the Association of Surgeons of the Wabash Railway, was formed. It has been followed by a number of others, and concerted work for improving the efficiency of medical service in connection with the operation of railways has been notably promoted by these associations. It is sure to be still further aided by the establishment of a department of railway surgery in the *Railway Age*, of Chicago, under the management of so competent a man as Dr. R. Harvey Reed, of Mansfield, Ohio.

ITEMS, ETC.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported during the two weeks ending February 3, 1891:

DISEASES.	Week ending Jan. 27.		Week ending Feb. 3.	
	Cases.	Deaths.	Cases.	Deaths.
Typhus fever	0	0	0	0
Typhoid fever	15	2	8	3
Scarlet fever	156	17	170	22
Cerebro-spinal meningitis	3	3	0	1
Measles	482	28	442	25
Diphtheria	108	34	118	18
Small-pox	0	0	0	0
Varicella	27	0	15	0
Whooping-cough	2	0	0	0

The State Society's Committee on Legislation, consisting of Dr. D. B. St. John Roosa, Dr. Daniel Lewis, and Dr. Maurice J. Lewi, presented the following report at the recent meeting of the society:

So many duties have devolved upon us during the past year that it is difficult to make a report which will give a thorough insight into the actual work performed by this committee since our last meeting. Legislators are beginning to recognize special departments in legislation, and the department of medicine has not been slighted by the lawmakers of 1890.

In our dealings with legislators who have had charge of matters medical an attempt has always been made to explain fully the merits or demerits of the legislation proposed. We have received courteous treatment at the hands of those intrusted with the affairs of state.

In obedience to the resolutions adopted by this society, your Committee on Legislation appeared before the various legislative committees having in charge: First, The Embalming Bill; second, An Act to prevent Blindness; third, The State Care of the Insane; fourth, The Bill to repeal the Preliminary Examination Law; fifth, The Bill requiring Equivalents in Examination for Practitioners; sixth, The Bill for Medical Boards of Examiners; and, seventh, Against the Bill providing for a Missionary Medical College.

The Embalming Bill.—This bill, in addition to being urged by the society, through its Committees on Legislation, was in the hands of a committee from Buffalo and New York city, representing the bar of the State and certain well-known chemists, but, owing to the lateness of the date of its introduction, although favorably reported in both houses, it failed of becoming a law. It, however, has been presented to the Legislature of 1891. From the discussion before the Assembly Committee, it is quite evident that there will be no objection to the bill on the part of the undertakers, if some preparation can be satisfactorily substituted for the arsenical forms of injection. Professor Witthaus and Mr. Tracey Beeker, of Buffalo, have framed a bill which remedies the objectionable features of the proposed law of last winter, which it is hoped will be satisfactory to all concerned.

An Act to Prevent Blindness.—This bill, which makes it obligatory on the part of midwives and others to report cases of diseases of the eye in the newly born, passed both houses unanimously.

The State Care of the Insane.—There was no hearing before any branch or committee of the late Legislature which called forth as much interest or as many individuals as this measure did. The society was represented at the hearing, and its reasons for indorsing the bill were made clear to the members of the joint committees. It was passed in spite of vigorous opposition.

The Bill to Repeal the Preliminary Examination Law.—A bill was introduced into the Senate which purported to have for its object the advancement of medical education; but its "true inwardness" was manifested in the last paragraph, which attempted to repeal the Preliminary Examination Bill. It was smuggled through the Senate, but, through the vigilance of Dr. R. P. Bush, the member of Assembly from

Chemung County, it was killed in the House. Another bill introduced from New York, having the same purport, was killed in the same way. The original bill, as passed by the Legislature of 1888, was modified at the suggestion of the Board of Regents in such a manner as to remove some defects, but not to interfere with its efficiency.

The Bill requiring Equivalents in Examinations for Practitioners.—This measure was introduced and carried without opposition, and is now a law. Its object is to protect the practitioner of medicine studying and residing in this State from the disadvantage of competition, because of the laxity of the laws in other States and countries. It is, in effect, a requirement from the non-resident graduate of the State of New York desiring to practice within the borders of the State that he be possessed of the same attainments as if he were graduated in the State of New York.

The Bill for Boards of Examiners for the License to practice Medicine.—Under the instruction of the society a bill was prepared and presented to the Legislature of 1890 having for its object the establishment of a Board of Examiners, who should pass upon the qualifications of a graduated doctor of medicine as to his right and ability to practice medicine in the State of New York. The intent of this bill was to divorce the degree of M. D. from the license to practice, and to give the State the last right to pass upon the merits of those desiring to enter the medical profession. In the bill as prepared by your committee it was proposed to establish a board of seven members, this board to be appointed by the State Board of Regents, intrusting to them the discretionary power of naming such examiners, regardless of the "pathy" or creed in medicine which they might advocate; reserving, however, for the homœopathic and the eclectic candidate the right to be examined on the subjects of materia medica and therapeutics by a separate examiner. This bill seemed to us to be entirely just and to promise something toward the unification of the profession upon a scientific basis; but that was not desired by the sectarians. Certainly no man in the profession believes that the Board of Regents would appoint a competent board who would deny a man a license if he came up to the common requirements. But the homœopaths said openly that they would not trust a board composed of a majority of practitioners who adhered to this society. We were confronted by a bill coming from the majority of the homœopathic school of medicine in this State, which demanded a separate licensing board for each recognized school of practice. Throughout the length and breadth of the State circulars and petitions had been scattered, pledges had been exacted, and when we appeared before the legislative body with our bill, we found the greatest stumbling-block in the fact that almost every member had been solicited, by physicians innumerable, to vote against any bill which did not include three separate boards of examiners. We fought earnestly for our bill, we left no stone unturned toward bringing about a fulfillment of the wishes of the society, but the temper of the legislative bodies was easily discernible, and before the question came to a vote we had so amended the Three-Board Bill as to rob it of its most objectionable features, and we succeeded in having incorporated the very best features of our bill into their proposed law. But, even though our opposition was carried to the Executive Mansion, the Governor signed the bill for the three separate boards of examiners, and our measure was defeated. As the law now stands, every person desiring to enter upon the practice of medicine in the State of New York must present himself before one of the three boards of examiners for examination. Here, under the supervision and immediate direction of the State Board of Regents, the same questions will be asked of each applicant coming before any board, on all subjects other than materia medica and therapeutics. In these branches each board of examiners will have an absolute right to pass upon the qualifications of those applying for a license to practice. There will be no possibility of connivance on the part of examiners or applicant, as a trusted official of the State Board of Regents will conduct all the examinations; certain average percentages will be insisted upon at the first meeting of the boards, without prejudice to any one, and in effect our bill is to-day the law of the State, with the exception that three separate schools of medicine are still recognized by the State. It is the opinion of your committee that no obstacles should be placed in the way of the enforcement of this law; that it ought to be given a fair test for a year or two, and then, if found to be imperfect, such changes can be made as are necessary. It is, of course, to be regretted that the bill creating only one board did not become a law. Men of character and standing could have been selected who would have passed upon the merits of an applicant's ability regardless of his creed in medicine, and thus the State of New York would have been spared the ridiculous position which is now assigned it of having three kinds of doctors. The States of the Union are turning anxiously to the Empire State, and already the other Legislatures have adopted a plan of procedure similar to that which is to be initiated in September of this year in our own State. The medical journals throughout the country have made favorable comments on the law recently passed. They consider it an advance over old methods. The English medical journals have welcomed the interest displayed on the part of the society in endeavoring to advance the standard of medicine, and from all sides we have no words but those of encouragement for our efforts. We trust that time will show that the law as it stands makes an improvement upon the system which allowed the faculty of a medical college to give a license to practice, as well as grant a degree, and that it will lead to a diminution in the number, and an improvement of the quality, of physicians in the State of New York.

The Missionary Medical College Bill.—One of the unique features of medical lobbying was accidentally revealed in connection with a bill to establish a missionary college. This measure, although unprinted, passed the Senate unanimously, and was on its way swimmingly through the House when its true purport was revealed to a member of the Committee on Legislation, and an investigation followed. The powers provided by this bill were such as are not even given to the State Board of Regents. It would have established a body superior to the University of the State of New York. Its intent was to organize an institution which should and would be empowered to grant any kind of a degree, from that of bachelor of arts to a missionary medical doctor, without any restrictions other than those provided by the bill itself, which were *nil*. The alarm was sounded as soon as the light was thrown on the bill, and its advocates abandoned their efforts.

The Committee on Legislation would call your attention most respectfully to the necessity of a watchful eye over the proposed legislation of future bodies of legislators, and with that object in view would suggest that the next Committee on Legislation be empowered to employ a person, at a moderate compensation, to scrutinize each bill carefully, with a view to learning how its enactment into the body of the law would affect the practice of medicine in the State.

The Medical Society of the State of New York.—At the annual meeting, held on the 3d, 4th, and 5th inst., the following officers were elected for the ensuing year: President, Dr. A. W. Suiter, of Herkimer; vice-president, Dr. W. W. Crandall, of Wellsville; secretary, Dr. F. C. Curtis, of Albany; treasurer, Dr. C. H. Porter, of Albany.

The First Koch Institute.—Dr. Alex. I. Aronson has opened, at 196 East Broadway, New York, an institution for the treatment of tuberculous diseases by the Koch method. A prominent medical authority has been secured as consulting physician. Patients are inoculated in the order of their admission. Those who desire private accommodations can obtain them. Letters from attending physicians are required.

The Kings County Medical Association.—At the annual meeting in January, Dr. John D. Rushmore was elected president; Dr. Arthur R. Paine, vice-president; Dr. J. C. Bierwerth, secretary; Dr. H. B. Reed, corresponding secretary; Dr. J. R. Vanderveer, treasurer; and Dr. S. H. Benton, on the executive committee.

The late Dr. Martin, of the Navy.—Surgeon Henry M. Martin, retired, died at Philadelphia on January 16th. He was commissioned in 1870 and became full surgeon fourteen years later. His last tour of sea-duty was in the Swatara, in the Asiatic squadron, from 1887 to 1890. He returned in ill-health a few months ago. He received his retirement in December last.

Society Meetings for the Coming Week:

MONDAY, *February 9th:* New York Academy of Medicine (Section in Surgery); New York Ophthalmological Society (private); New York Medico-historical Society (anniversary, private); New York Academy of Sciences (Section in Chemistry and Technology); Lenox

Medical and Surgical Society (private); Boston Society for Medical Improvement; Gynæcological Society of Boston; Burlington, Vt., Medical and Surgical Club; Norwalk, Conn., Medical Society (private); Baltimore Medical Association.

Tuesday, *February 10th:* New York Medical Union (private); Medical Societies of the Counties of Delaware (semi-annual) and Rensselaer, N. Y.; Newark, N. J., and Trenton (private), N. J., Medical Associations; Baltimore Gynæcological and Obstetrical Society.

Wednesday, *February 11th:* New York Pathological Society; New York Surgical Society; American Microscopical Society of the City of New York; Medical Society of the County of Albany; Pittsfield, Mass., Medical Association (private); Franklin, Mass., District Medical Society (quarterly—Greenfield); Philadelphia County Medical Society.

Thursday, *February 12th:* New York Laryngological Society; New York Academy of Medicine (Section in Pædiatrics); Society of Medical Jurisprudence and State Medicine; Brooklyn Pathological Society; Medical Society of the County of Cayuga; South Boston, Mass., Medical Club (private); Pathological Society of Philadelphia.

Friday, *February 13th:* Yorkville Medical Association (private); German Medical Society of Brooklyn; Medical Society of the Town of Saugerties.

Saturday, *February 14th:* Obstetrical Society of Boston (private).

Answers to Correspondents:

No. 344.—1. So far as we know, a patient is at liberty to have a physician's prescription put up anew as many times as the apothecary is willing to do it. The practice is, of course, objectionable and sometimes dangerous. 2. A physician's bill has no preference over any other debts of a decedent in the matter of payment. It must be paid just like other debts, in full if the estate is sufficient, otherwise *pro rata.* The law does not even *in terms* prefer funeral charges, but by custom and in the universal practice of surrogates' courts they are paid in full out of the estate in preference to everything else. The nurse's bill is on the same footing as the physician's.

Proceedings of Societies.

MEDICAL SOCIETY OF THE STATE OF NEW YORK.

Eighty-fifth Annual Meeting, held in Albany on Tuesday, Wednesday, and Thursday, February 3, 4, and 5, 1891.

The President, Dr. William Warren Potter, of Buffalo, in the Chair.

The President's Address.—In the course of his opening remarks the president said that it was the written law of the society that its presiding officer should at the opening of each annual session make a communication setting forth the condition of the medical profession in the State, and make such suggestions in relation to its improvement as were deemed appropriate. It was a fortunate circumstance that at this time there was in the condition of the profession much to commend and but little to criticise. If its members had not attained perfection it was because they were human and because this was a progressive world and its purposes were accomplishing themselves in ever-widening circles. The contribution of the society for this year had been a State Medical Examining Board. This might easily be regarded as the most important step taken by this State recently in the direction of medical educational reform, and it fittingly signaled the beginning of the last decade of the nineteenth century. We were now apparently near the realization of our long-desired deliverance from the thralldom of a system which had retarded the progress of medicine in the State more than all other causes combined. If the present law was an apparent modification of the original bill which the society had offered to the Legislature, who would dare to assert that it was not a better one? It was true that the original thought in the minds of many had been to obtain a single mixed board, whereas the law contained provisions for three separate boards, representing the three State medical societies recognized by the statutes of the State of New York. But let it be remembered that, though there were to be three boards, they were bound by a single standard in all the important and fundamental departments of the curriculum of medicine, and, moreover, there was to be but a single licensing body, namely the Board of Regents of the State of New York.

Finally, the medical colleges were all bound by the provisions of the law to give three full courses of medical instruction in different years before granting diplomas, since candidates would not be admitted to the examination for a license with less preparation. It might be that enemies that had appealed to all the weaker qualities of human nature to thwart the legitimate purpose of the measure, and that had struck hands with any who could aid in bringing about defeat, had really aided this project more than they were aware. The speaker concluded by urging that the law as it now stood be accepted loyally, and everything be done to strengthen the hands of the Board of Regents, which was charged with its execution. If on due trial there should be found defects, they could be remedied easily as experience pointed them out, but as a final word he wished to urge upon the society the importance of standing as a unit against any attempts to modify the present provisions of the law or any endeavor to break its full effect until it was thoroughly tested. Let them love the law for the sake of the many enemies it had made.

Railroad Surgery.—This was the title of a paper by Dr. C. B. Herrick, of Troy. He surveyed the whole ground of the injuries which, by reason of the special factors in their causation, presented definite surgical characteristics. He said that, as to the prognosis in the more serious cases, he thought that it was as favorable as in those occurring in civil life. The railroad employees were, as a rule, young men who from the nature of their work were rugged. Very little alcoholism was met with among them. In the case of civilians injured upon trains the prognosis depended upon the habits and age of the patients as well as upon the lesion. Then, again, much depended upon the state of the injured person when brought to the operating room. Very often this was not done until much mischief had been incurred from rough handling and exposure of the injured parts to septic influences. Another point to consider was the question of shock, and to determine at what stage of the case to operate, whether in the primary, the intermediate, or the secondary period. On this subject there was a great deal of difference of opinion. In the author's judgment, if the patient was found to be in fair condition it was better to do at once any operation that was called for. By so doing the shock of the operation was modified by the already existing condition of shock, and to wait was only to further jeopardize life from hæmorrhage and exhaustion.

Dr. Charles A. Powers, of New York, referring to a point touched upon by the author as to the conservative treatment of severe injuries of the fingers in men who had to earn their living by manual labor, said that it had been his experience that, though at the time of the injury these patients were always unwilling to undergo amputation of the member, still, after a time, when they found that they had a stiff finger constantly interfering seriously with their work, they almost invariably came back and were glad to have the finger removed.

Dr. Herman Mynter, of Buffalo, criticised the review made by Dr. Herrick of those injuries which he considered to come within the meaning of the term railroad surgery. He considered the term railroad surgeon a misnomer. One might just as well start an association of manufacturers' surgeons or heavy machinery surgeons. He had recently been called to a case of railroad injury and had found three railroad surgeons quite at sea as to a diagnosis. They had about concluded that the man had peritonitis, that he had not long to live, and that to attempt his removal would only hasten his demise. The speaker had given it as his opinion that there existed no peritonitis, and had undertaken the removal of the patient after committing himself to a diagnosis of crushed kidney. Exploratory incision had confirmed this opinion. This was what might be termed a case of railroad surgery, and three railroad surgeons had been obliged to come to a civil surgeon for a diagnosis.

Injuries to the Knee Joint.—Dr. H. Flood, of Elmira, in a paper on this subject, reported his treatment of a number of severe cases, among them one of removal of the patella. His examination had revealed the fact that there existed complete comminution of the patella, and that the joint had escaped injury. Considerable but not alarming inflammation had set in, and an abscess had formed in the synovial sac. The cavity was drained with two tubes. Complete recovery had resulted, and the patient had regained perfect use of his limb. There was only a slight halt in his gait. The speaker thought that the operation was a rare one, as he had been unable to find a recorded case in which removal had had to be done for a traumatism. Of the cases he reported of injury to the knee joint, he said that part had been treated before antisepsis was generally adopted. Others had been treated antiseptically with results decidedly in favor of the latter precaution. All the cases illustrated the great principle that rest and thorough drainage were absolutely called for if a good result was to be hoped for.

Necrosis of the Ribs complicating Pott's Disease.—This was the title of a paper by Dr. L. A. Weigel, of Rochester. He thought the occurrence of necrosis of the ribs as a complication of Pott's disease sufficiently rare to merit record. He therefore narrated the following case: Rebecca R., colored, twenty-eight years old, had come giving a history of injury by falling on the ice and wrenching her back nine years before. She had previously been under treatment for lateral curvature of the spine, and while she was wearing the apparatus kyphosis of the seventh and eight dorsal vertebræ had developed. Soon after her discontinuing the jackets an abscess had formed, from which she had recovered. Some years after this an abscess had appeared just below the left scapula, and this was opened. She had come under the immediate care of the speaker in July, 1889. He had treated the abscess, but without success, and operative interference was accordingly undertaken. The old sinus was opened and the eighth rib was found to be extensively diseased, as were also the sixth and seventh. The lower borders of these were serrated and undermined. The necrotic process had entirely destroyed the eighth rib at one point. The articular end was almost detached from the vertebra and the articulation disorganized. To the left of and parallel with the spinal column a sinus extended downward for about four inches. This was probably the remains of the lumbar abscess. The necrotic portion of the eighth rib was carefully detached from the underlying structures and resected. The carious portions of the sixth and seventh ribs were removed with the gouge-forceps, a drainage-tube was inserted, and an antiseptic dressing was applied. Since the operation the patient's general health had steadily improved. When abscesses occurred in the course of Pott's disease the pus usually followed the line of least resistance and manifested itself in the lumbar and psoas regions. Even when tubercular disease existed in the transverse processes, which lay posterior to the ribs, it was uncommon for an abscess to appear in the lateral dorsal region, and hence infection of the surrounding structures was not likely to occur. In the case reported, the disease of the ribs had undoubtedly been secondary to the caries of the dorsal vertebræ, possibly due to an extension of the tubercular process by continuity. This at least would be a reasonable assumption with reference to the eighth rib, but the carious condition of the sixth and seventh ribs at a point quite remote from the disease could not be explained in this way. Opinions differed as to the advisability of operative interference with the abscess and resection of the ribs.

Brief Notes on Gastrostomy, with the Report of a Successful Case.—Dr. C. A. Powers, of New York, read a paper with this title. The patient upon whom he had performed the operation was a man fifty years of age, who from August, 1889, to February, 1890, had continued to present more and more pronounced symptoms of stenosis of the œsophagus. Exploration of this canal had determined the existence of a stricture just about its cardiac orifice. Treatment by dilatation had relieved the urgent condition and the man had been lost sight of for some months. On his coming again under treatment matters had become so serious that an operation was earnestly requested by the patient and undertaken by the speaker. Chloroform was accordingly administered, a careful chart of the left lobe of the liver was marked out, and an incision was made parallel with the free border of the ribs and about an inch distant from the costal arch. The incision was about two inches and a half in length, its center being about an inch outside the free margin of the liver. The peritonæum being opened, the hepatic margin came into view. The fingers then easily found the stomach, which was brought into the wound. The viscus was recognized by its size and by the surface vessels. It was fixed in the abdominal wound with six silk sutures passed through its peritoneal and muscular coats. Two loops of silk were inserted at the center of the presenting portion of the stomach to mark the spot where the future opening was to be made. An antiseptic dressing of loose gauze was applied. The patient reacted well and there were no untoward symptoms. Rectal alimentation was carefully maintained. The stomach was not opened till the fourth day. No pus was found at the seat of the original wound, and the stomach was firmly adherent to the abdominal wall. The second step was completed without an anæsthetic, but there was no pain. A No. 9 soft English catheter was introduced through the incision into the stomach, and two ounces of peptonized milk, together with a little brandy, were injected. The catheter was left in place, its end being plugged, and it was fastened to the chest wall with a bit of plaster. As the patient got accustomed to this method of feeding, the rectal alimentation was gradually discontinued. During the first few months there was marked increase in the bodily weight, with a considerable improvement in the patient's general condition. After a time, however, the malignant growth made such encroachments that the patient died of exhaustion incidental to the original disease. The case afforded a fair illustration of the advantages derivable from gastrostomy in impermeable cancerous strictures of the œsophagus. The life of the patient was prolonged for three months and he was spared the agonies of death by starvation. In benign strictures the operation was undertaken with the view of saving life, and in malignant ones with the hope of prolonging it. Its statistics were far better than those of œsophagostomy or œsophagotomy, while œsophagectomy was worthy of no consideration. The use of the operation in benign cases would be limited to strictures which were impermeable. In permeable malignant strictures tubage with the long nasal tubes of Krishaber or the short tubes of Symonds seemed to offer the advantages of relief with freedom from danger. There must remain, however, a certain number of cases in which gastrostomy was the sole resort, and in these an early and careful operation would prove of great advantage.

Dr. Mynter thought the operation ought to be undertaken with the patient under cocaine anæsthesia only, in view of the retching and vomiting always caused by the other narcotics. He thought the suturing would be simplified by the use of Abbe's rings or Senn's plates.

Dr. Willy Meyer, of New York, said the main point was to prevent leakage. If the patient was in a very low state or very old, it might be well to use cocaine. This drug would never produce any ill results if it was borne in mind that half a grain should be the maximum dose for hypodermic administration. He did not indorse the view that rings or plates were called for in this operation. He thought that if silk sutures were used the stomach might be opened at once. The best way to open the stomach was to make a longitudinal incision through the rectus muscle and let it act as a sphincter.

Two Cases of Traumatic Hysteria was the title of a paper by Dr. Henry Hun, of Albany. He said the question as to the amount of money which was a just compensation for an injury received was always one difficult to answer, and especially so in the case of injury of the nervous system, whether organic or functional. In the case of organic nervous disease—such as a cerebral tumor, a myelitis, or a neuritis, etc.—which might result from an injury, the lesion was often of such slow development that several years might elapse before the symptoms were pronounced, and therefore the injury to the nervous system was not fully manifested until long after the question of damages had been settled. The question was not less difficult in the cases of those functional diseases of the nervous system resulting from injury, and the difficulty in these cases arose partly from the danger of deception, because many of the symptoms were easily feigned, and the patient had great temptation for such feigning of symptoms, and partly from the great obscurity in the pathology of these diseases. These cases of traumatic functional nervous diseases, which were described by Erichsen under the name of spinal concussion, or railway spine, were now generally regarded as of cerebral origin, and known by the name of traumatic neuroses. These diseases depended in their ætiology quite as much on the fright as on the physical injury.

Two cases of traumatic hysteria occurring in young women were related—the first resulting from a railway collision, the second from a violent fall in the street. In the first case there were hysterical convulsions, with a temporary attack of insanity, hemianæsthesia, and a paralysis of motion and sensation in one leg. In the second case there was obstinate vomiting, associated with tender spine and a contraction of the muscles of one leg, with impaired motility in that leg. Both cases presented many symptoms typical of hysteria, and were such clearly defined cases that there could be no mistake in regard to the diagnosis. In both cases seclusion in a hospital and vigorous and painful treatment were necessary before any improvement was manifested. While in the hospital the first patient was cured, and the second greatly improved. In the first case the cure did not take place until more than a year after the damages had been awarded; in the second case the great improvement was obtained three years before the damages were awarded. Both patients were awarded very large damages, and the progress toward recovery was not in the least favorably modified in either case by the receipt of these large amounts. In both cases the question of simulation was carefully considered and was excluded, partly on account of the complicated nature of the simulation required to counterfeit typical hysteria, and partly because the receipt of the large damages did not cause a cure or even an improvement. The necessity of removing such patients from a sympathetic family and isolating them in a hospital, if any cure or improvement was to be obtained, was dwelt upon.

In conclusion, it was suggested that if any claim for damages was made on account of a functional nervous disease resulting from injury which was due to the negligence of a corporation or an individual, it would be a wise action if such corporation or individual were to offer to pay for the special hospital treatment of the patient in the hope of obtaining a rapid cure. In a considerable number of cases the offer might be accepted, and in the other cases the fact that the offer had been made would put the defendant in a better light before the jury, for no expert could deny that had such a course of treatment been adopted the patient would have stood a better chance of recovery. Furthermore, in deciding on the amount of compensation it should be remembered that a considerable number of these cases were easily and rapidly cured under proper treatment, especially after the question of damages had been definitely settled.

The Electric Cautery in Surgery, with Special Reference to its Use in the Nose, Throat, and Mouth.—This was the title of a communication by Dr. D. H. Goodwillie, of New York. He said that, of all the therapeutic means for the removal of hypertrophies and abnormal growths of any part of the body, but especially those of the nose, throat, and mouth, electric cautery was of the most special value, and would produce results that could not be so well attained by any other method of treatment. It was eminently superior to any caustic or cauterizing agents used in surgery, it could be limited in its action and quickly applied, and was entirely under the control of the operator. For its successful use as a means of treatment it was not necessary to have a profound or technical knowledge of electricity. The electrical energy was now readily supplied with simple means of controlling the electro-motive force to any particular case in hand. The troublesome and vexatious primary batteries would soon be among the things of the past, and in their place the electrical power would be supplied in storage cells or used directly from the dynamo, the current being controlled at the will of the operator. The speaker then exhibited a complete electro-surgical apparatus which he had made for special employment in surgical cases in any part of the body. He then went on to describe the electrical apparatus which he had arranged, which consisted of a Piffard's combined dynamo and motor wound to take a 120-volt constant current with a speed of 2,200 revolutions, which could be regulated by the candle power of the lamp. Attached to the motor was a shaft with a hand-piece for carrying the instruments. The cautery was controlled with a rheostat so that the smallest point electrode or platinum wire six inches in length might be used. The speaker then proceeded to explain in detail the various instruments which formed a part of the outfit and their adaptability to the special requirements of electro-cautery.

The Progress of Cystoscopy in the Last Three Years.—Dr. Willy Meyer, of New York, read a paper on this subject. He said he should confine his remarks to the part of the subject which bore directly on the diagnosis and treatment of kidney disease with the help of the cystoscope. He thought it would be to the point if he were to read the histories of two cases which had lately come under his observation in his private practice, and which he thought would serve to illustrate the gratifying change that had resulted from the use of the instrument.

Case I.—Mrs. ——, forty-five years of age, had come under his care in 1887. Two months previously she had been operated upon for an inflammation which had been set up in the left (floating) kidney. The lumbar incision had revealed a cystic degeneration of the organ. The wound had healed with the exception of two small sinuses, which remained in the scar and gave a continuous exit to sero-pus. For more than a year the patient had felt benefited by the operation, but an ever-increasing bladder tenesmus had made life unendurable and some relief was sought for by further operation. This was denied on the ground that degeneration of the kidney rarely occurred as a unilateral disease. Some active interference had, however, become necessary, and the speaker resorted to cystoscopy for the purpose of ascertaining the exact condition of things and the relative functional activity of the two kidneys. He found the following condition: There was catarrh of the bladder, the minutest blood-vessels being injected. The point at which the orifice of the left ureter should have been seen presented a curiously folded growth consisting of the swollen and inflamed mucous membrane. He suddenly noticed a jet of fluid mixed with small and large flakes and shreds, which came from a somewhat retracted spot at the top of the mass. A few minutes later a long thread of pus was slowly making its way out of the opening into the bladder. Examination was now directed to the right ureter to ascertain if possible the character of the discharge from it. The orifice was being pushed forward and retracted alternately, as was normally done with the outpouring of each jet of urine thrown into the bladder. Comparing the ejection of the two ureters in the point of time, he found that there was on the right side a jet of clear urine every twelve, fifteen, twenty, and twenty-five seconds, and from the left only every four, six, and eight minutes. The question then arose, Would the work of the right kidney be sufficient if the left one was removed? That it would be so seemed to be amply proved by the cystoscopic examination, and, if this was the case, the diseased organ, which caused the repeated attacks of ureteritis and septic fever from which the patient now constantly suffered, was a burden that could and should be removed. On these grounds a favorable prognosis was made in regard to nephrectomy, provided the immediate effects of the operation were withstood. The operation was undertaken by the speaker, and the kidney was found in a condition of extensive cystic degeneration. The patient had done well so far, though the urine was not yet clear. Future cystoscopic examination must determine whether this was the result of some bladder trouble or of the impairment of the right kidney.

Case II was that of a woman, seventy-eight years of age, in whom the cystoscopic examination had revealed the fact that nothing but thick pus descended from the left kidney. As the daily average of the urine voided was from thirty to forty ounces, the prognosis as to the functional condition of the other kidney was of course favorable. Nephrectomy was accordingly performed, and it was found that the enucleated kidney was enlarged and sclerosed. After the operation the amount of urine had never varied except in the first twenty-four hours. This patient was making a rapid recovery.

As the result of his work so far, the speaker had drawn the following conclusions: 1. Cystoscopy was an easy and harmless examination, but its successful employment required experience. 2. In all kidney or bladder disease scystoscopy had to be practiced, if necessary, repeatedly before operative interference for diagnostic purposes was resorted to. 3. It should be performed as a *dernier ressort* after all other well-known means of making a diagnosis had been exhausted. 4. If properly applied, cystoscopy would generally clear up an obscure disease of the bladder. 5. There were a number of causes which made cystoscopy impracticable. 6. In most cases we could determine, with the help of electric illumination of the bladder, whether we had to do with a disease of the bladder or with one of the kidneys. 7. We could then find out whether only one kidney was diseased or both. 8. We should soon be able in the great majority of cases, and with the use of instruments at present in process of perfection, to catheterize the ureters and gather the urine from each kidney separately. 9. We could make out in certain cases, by timing the frequency of the jets at the orifice of the ureters, whether or not one kidney was doing the work for the other, which was diseased. 10. These facts would tend to make superfluous a preliminary section or a perineal invasion for diagnostic purposes, as well as a nephrotomy performed for determining the action of the other kidney. This would tend to greatly widen and strengthen our means of ascertaining the indications and prognosis of nephrectomy.

(*To be concluded.*)

NEW YORK SURGICAL SOCIETY.

Meeting of November 26, 1890.

The President, Dr. Charles K. Briddon, in the Chair.

Excision of the Superior Maxillæ, with Preliminary Ligation of Both External Carotid Arteries; Two Cases.—Dr. F. Lange presented two patients, a man and a woman between fifty and sixty years of age, upon whom this operation had been performed six and five weeks before. The external incision over the maxilla had been chosen, as devised by von Langenbeck, the cuts being made along the margo infra-orbitalis and the side of the nose, around the ala nasi, and through the middle line of the upper lip. By the preliminary ligation of the external carotids the loss of blood, which in these operations was justly dreaded, had been greatly diminished. They had been finished with ease and with the possibility of distinguishing the tissues which had to be removed. Only toward the ethmoid bone, which in one of the cases had to be removed almost entirely, was the bleeding of any significance. In this case the involucrum palati duri was preserved and united to the cheek. In the other case the operation had to be extended over the middle line and a part of the vomer and soft palate, including the os palatinum, removed on account of the prevalent development of the tumor toward the mouth.

For the ligation of the external carotid he had found, after having tried varied processes, the following method the best: A slightly curved incision was made, beginning at the angle of the jaw, directed downward and with its convexity backward, so that the posterior border of the submaxillary gland became visible; here the external maxillary artery was easily found, and along it the operator worked backward to its origin from the external carotid. It was advisable to tie the external maxillary and to use the ligature for pulling on the vessel in order to make out with certainty its origin from the carotid, above which it was ligatured. In one case the speaker had severed the belly of the digastricus in order to get better access, but, as a rule, this would not be necessary. He had found this way better than to go from the bifurcation upward. Here the branches were the most numerous, and it was not at all easy to distinguish in the depths of the wound between the lingual, the superior thyreoid, and the external maxillary. On the other hand, it might be desirable to ligate distally to the origin of the lingual arteries, since a sufficient re-establishment of circulation in the tongue to prevent necrosis might not be quite certain in elderly persons.

In both the cases presented he had observed that in one of the wounds on the neck slight necrosis of connective tissue took place without much suppuration, and in the case of the woman, who was anæmic before the operation, a similar necrosis of the skin. The large incisions on the face had essentially healed by first intention. On account of the necessity of removing the floor of the orbit in both cases, the eyeball had slightly sunk downward, and double sight had taken place. This was very annoying to the patients in the beginning, but gradually they got accustomed to it and learned to suppress one of the images, if they did not stand too close together. In looking downward no disturbance was noticed.

Dr. J. D. **Bryant** had never ligatured the maxillary arteries for the purpose of removing one or both bones, but had ligatured both the external carotids simultaneously and separately, the former three times and the latter once. The first case was one of cirsoid aneurysm, subsequently removed by cutting. The second case was simultaneous ligature of the external carotids for the purpose of starving a malignant disease of the face. The third was one of naso-pharyngeal growth, a myxosarcoma. This last case had come under his observation some five years before. While the speaker was watching the general progress of the case the patient had a hæmorrhage from the growth. This he got over, but the growth continued, and it was then removed with the écraseur. It had, however, at length become so large as to press upon the soft palate and the hard parts, causing severe pain in the face. At a meeting of the Surgical Society some four years before, the speaker had recommended the simultaneous ligature of the carotids for the purpose of starving this class of malignant growths. His suggestion had been criticised severely. He had thought that this case was a good one in which to study the effects of his plan of treatment. At the time of the ligature of the arteries the growth was very large. In a week afterward the tumor had diminished notably and the patient was free from pain. It was also now possible to pass the finger around it, which could not be done before. It might be asked why he had not removed the tumor. This he had not done, because he was anxious to study the effects upon the circulation and to establish the fact that ligature of the vessels had really controlled the blood-supply to the growth. When he had become satisfied as to this point he removed the superior maxilla. There was no arterial bleeding except from the ophthalmic branch. He found the tumor to be rapidly diminishing in size and did not interfere with it. The patient he caused to be placed in the hospital as an orderly, and he had been under observation ever since the operation. The growth had become reduced very much in size, and the patient had remained entirely comfortable. He believed he had reported this case about a year ago. In his opinion, the operation was warranted by the results so far. As to ligature of the carotids for the purpose of removing the superior maxilla, he had never done it and did not think he should, because in a case in which he had done it on one side to remove the superior maxilla on that side for malignant growth the tumor had returned, at least he believed so, but the patient had passed from his knowledge. In only one case had any unfavorable results accrued as the direct outcome of the ligaturing. This was a case in which secondary hæmorrhage had taken place from the facial, which had been tied by another surgeon for the removal of a malignant growth. When the external carotid was ligatured the parts sloughed. In this case the facial artery had had its origin from below the point of bifurcation of the common carotid.

Dr. Charles **McBurney** said that for the very great majority of cases he could not acknowledge the necessity of the ligature suggested as a preliminary to the removal of the superior maxilla. The hæmorrhage was principally confined to a short period immediately following the removal of the mass of the tumor, and was really quite easily controlled by pressure. This work was of course to be in the hands of an assistant, and a good one, but, when properly done, it was sufficiently effective to enable the surgeon to proceed safely with the remainder of the work.

Dr. Lewis A. **Stimson** said he had seen Dr. Lange remove the superior maxilla very rapidly and skillfully without preliminary ligation of the carotid, and with less loss of blood than was common in most operations. He himself had removed both superior maxillæ simultaneously without preliminary ligation, and with very little bleeding, though the patient had died of the operation.

Dr. **Lange** remarked that all the cases of this operation which he had seen had been attended with considerable hæmorrhage. He did not see how it could be otherwise. He did not know what incisions were chosen by those who were able to do the operation without a great deal of bleeding, and who maintained that the hæmorrhage would not be important. He thought that the indications for sparing as much blood as possible in these cases was quite evident. Some of these sarcomata bled so profusely that there was hardly any operation in surgery attended with such loss of blood. He remembered the case mentioned by Dr. Stimson. The patient, he thought, was a very anæmic girl, and he believed that the preliminary operation of ligaturing the arteries would have been of special service in that case.

Dr. **Stimson** thought that, if he had undertaken to tie the carotids, the patient would not have lived long enough to have the jaws removed.

Dr. **McBurney** said he should not like it to go on record that he too lightly appreciated the loss of blood in these cases. He was aware that in some kinds of tumors—such, for instance, as the angeio-sarcomata—it was likely to be quite great. He had, however, operated on a good many, and in some of the cases the bleeding had been profuse, but it had been easy to control it by skillfully applied pressure, as he had stated. Pressure should be applied to the bleeding surfaces with sponges held in long-handled forceps.

Dr. J. A. **Wyeth** said that the ligation of both carotid arteries would of course, theoretically, control the hæmorrhage from this class of tumors; still, in one instance in which he had tied them both the hæmorrhage had been frightful. He then cut out the bones and removed the tumor, burned the parts, and packed the cavity with sponges. The wound was kept open for eight months. There had been no recurrence. He insisted that the danger of hæmorrhage in removal of the upper jaw had been greatly exaggerated. If the patient was placed on the side on which the jaw was to be removed, even without lowering the head in the least, the blood would run harmlessly out from the mouth and not into the larynx.

Dr. R. F. **Weir** said that in the main he supported Dr. Lange's views on this subject. A few years ago he had lost the patients in two such cases from severe hæmorrhage. He had then made up his mind that it would be expedient to put a temporary ligature, at least, on the external carotids. He did not think, however, that in the majority of cases this would be necessary; still, he felt that the hæmorrhage met with after such a preliminary operation would be more easily managed. In doing the operation without this precaution the bleeding took place from so many points that it was often impossible to get the forceps on fast enough. It was his custom to direct his assistant to make pressure upon the facial and angular arteries, and in this way considerable loss of blood was avoided.

Aneurysm of the Palmar Arch.—Dr. **McBurney** showed a patient whose case, he said, presented some points of surgical interest. Several years before, this patient, a young man, had received a deep punctured wound with a knife, the small blade entering the left hand a little above the wrist, in front, and passing downward to the palm. No other injury had been noticed at the time, and it had been treated by compress and had left no trace. Last July, several years after the accident, the patient noticed a pulsating tumor in the palm of that hand. This was treated by compression for two months. Then it appeared that an attempt was made to effect a cure by tying the radial and ulnar arteries. The pulsations in the tumor did not, however, diminish except for a few hours. Very soon after this operation the patient noticed a change in the sensibility of his hand. This went on to complete loss of sensibility in the little finger, the ulnar side of the ring finger, and part of the palm. The condition of the tumor remained unaltered. This was the state of things when the patient came under the speaker's notice. It was a question whether the ulnar nerve had been included in the ligature at the time of the operation, or whether it had sustained some other injury. As only two months had gone by, it seemed worth while to cut down and, if possible, find out the cause of the loss of sensibility. This was accordingly done, and the nerve was found uninvolved except perhaps by a little cicatricial tissue. A ligature was found imbedded in the tissue near the nerve. This inclosed some fibrous strands, but apparently no nerve tissue, though it might perhaps have involved some of the finer branches of the ulnar nerve. The ulnar nerve appeared normal. The ligature was removed. The aneurysm was treated by dissecting it out, cutting it away, and then tying the bleeding vessels. The result was immediate and steady improvement, sensibility having gradually returned until now the patient had a normal hand. The speaker would advocate the removal of this class of tumors in the manner indicated.

The Influence of Laparotomy on Tuberculosis of the Peritonæum.—This was the title of a paper by Dr. Parker Syms. (See page 141.)

Dr. F. H. Markoe said that, in regard to an operation, he thought we should distinguish between two forms of tubercular peritonitis, the dry and the ascitic. He had at the present time a case of the ascitic form under observation. The patient had been operated upon in July, 1888. He had been twelve months doing laboring work upon a railroad. He was at the present time perfectly well. There had been no re-accumulation of the fluid or any other evidence of tubercular disease. The patient had been carefully examined in the mean time by Dr. Delafield, Dr. Janeway, and others. In both the ascitic cases which had come under the speaker's observation the diagnosis had been verified by the finding of tubercle bacilli. In the dry form he thought that laparotomy did very little good. The patients usually went steadily downward. But in the ascitic variety a number of successes seemed to have been attained by simple evacuation of the fluid.

Dr. McBurney thought it was very essential in these cases that the most perfect drainage should be established. The good result, if any, was expected as an effect of the traumatism, and, as it would take considerable time to get entirely rid of the fluid, the freest drainage should be provided for.

Dr. Stimson spoke of the recently enunciated theory that the death of the tubercle bacilli was due to the exposure to light and air.

Dr. Lange had seen two cases of the type under discussion. In one case he had found the peritoneal cavity full of nodules, and the mesentery was also similarly involved. This patient recovered after the operation, which was done for internal strangulation by a band, and died about a year and a half afterward in Europe, at some sanitarium for consumptives, but, so far as the speaker could ascertain, there had never been any recurrence of the trouble in the abdominal cavity. That was the dry form. There had been no ascitic fluid. The patient had been operated on before by the speaker for an abdominal tumor with a broad insertion in the pelvis.

Dr. Bryant, Dr. Willy Meyer, and Dr. McCosh contributed instances from their experiences in which improvement more or less radical had supervened upon interference by laparotomy. Dr. Meyer had seen a case in his own practice where the abdominal wound became partially tuberculous. Dr. McCosh doubted whether many of the cases assumed to be tuberculous were really so.

Arterio-venous Aneurysm.—Dr. F. Kammerer reminded the society that, about eight months before, he had presented a patient with a very interesting arterio-venous aneurysm which had resulted from a pistol-shot wound of the arm some twenty years before. It would also be remembered that there were some points about the exact anatomical derangements which a committee had been appointed to clear up by careful examination. The man had since died of pneumonia, and the speaker was now able to produce the arm for inspection. (Dr. Kammerer's description of the specimen is to be published.)

Dr. Weir also reported a case of arterio-venous aneurysm affecting the anastomotica magna. This had occurred in a boy who had wounded himself in Hunter's canal. The wound had bled freely and then closed. After a week the patient was about again. He was then seized with pain in the thigh, and swelling took place. The speaker had seen him the next day, and found a tumor as big as an egg. The characteristic purr was present, which could be heard with the stethoscope as high as Poupart's ligament. He had believed it to be the result of injury to the femoral artery and vein. He had told the friends that an operation would probably be necessary, but that they might take time to deliberate upon it. The boy was put meanwhile under treatment by compression. The tumor continued to increase, and the boy was sent to him for operation. He cut down and found the femoral artery and vein intact. He then found that the anastomotica magna was the seat of the injury. This vessel was tied above and below the tumor and the latter was dissected out. The sphygmographic tracings at the groin showed increased systolic pressure.

A Submaxillary Composite Cartilaginous Tumor.—Dr. Weir showed a tumor of the size of a Tangerine orange which he had removed from below the inferior maxilla after it existed there eleven years. Its growth had progressed slowly and without much pain. It could be felt in the mouth close to the bicuspid teeth, and through an incision there two salivary calculi as large as peas were removed. After a delay of several months without any subsidence of the growth, he operated with the idea that the tumor was the result of an obstructed salivary gland. He enucleated it. It was found attached to the edge of the submaxillary gland, and was a composite cartilaginous growth similar to those commonly met with in the parotid region.

Osteoma of the Os Pubis.—Dr. Weir showed a specimen that he had removed from a young woman of twenty-eight. She had lived in India and had there noticed a growth on the right side of the symphysis pubis. She had been told by her physician there that it was probably a malignant growth, and had come to America to have it removed. It had proved to be a pure bony growth, of the size of a hen's egg.

The Wire Treatment of Aneurysm.—Dr. A. G. Gerster had sent a specimen of an aneurysm of the aorta into which he had introduced thirty-five feet of wire. The patient had died four weeks afterward, and he had sent the specimen to show how little coagulation had taken place in that length of time around the wire.

Tumors of the Thyreoid Gland.—Dr. McBurney showed a cystic tumor which he had lately removed from the thyreoid gland according to Socin's method. The operation had presented no difficulties, and a week had completed the cure. He also presented a tumor of the thyreoid which had existed for three years. It was not a cyst, but a parenchymatous degeneration of the gland tissue, and was surrounded by a connective-tissue capsule. It was easily enucleated without injury to the healthy gland tissue remaining.

Popliteal Aneurysm.—Dr. Meyer presented a specimen of popliteal aneurysm which he had removed from a man thirty-three years of age. The patient had fallen backward from a ladder three months' previously, his flexed right knee being caught by one of the cross-bars. When the patient entered the German Hospital there was a pulsating tumor in the right popliteal space of about the size of a man's fist. The usual methods of compression, elastic (Reid's) as well as digital, having completely failed, the speaker considered the expediency of removing the pulsating sac. Only one symptom seemed to partially contra-indicate this procedure, and that was the marked insufficiency of the aortic valves. This condition, it was feared, might possibly subsequently interfere with the sufficient blood-supply of the leg and foot. The operation was difficult, as the vein was firmly adherent to the aneurysmal sac. An elastic band was put on above the ankle joint before the Esmarch bandage was applied. In the course of the operation the former was taken off and the artificially retained portion of blood allowed to fill the vein. In this way it could be handled more easily, and escaped uninjured. A great number of vessels which crossed or communicated with the sac had to be tied. The wound was closed by two rows of catgut sutures, the first involving the popliteal fascia. It was thoroughly drained by iodoform-gauze strips and rubber tubes. The limb was put up in a Volkmann's splint. The course of the healing proceeded very satisfactorily in the beginning, the patient only complaining of a great deal of pain. The toes were white and cold for the first two days, but gradually became warm. On the third day after the operation the first dressing was changed. On the dorsum of the foot and in the calf a number of circumscribed discolored spots were to be seen, evidently a beginning gangrene of the skin. The wound itself was in a perfectly aseptic condition. During the following four weeks the whole gastrocnemius muscle, the five toes, and a portion of the skin and deeper tissues on the outer side of the foot became gangrenous. The temperature ranged more or less high. As the patient's general condition was growing worse, the thigh had to be amputated five weeks after the first operation. The patient was now doing well. A careful dissection of the amputated limb, performed by Dr. Otto Cohen, assistant pathologist to the German Hospital, showed that a perfect collateral circulation had not been established, although there was a high division of the popliteal artery, certainly a very favorable circumstance. The vessels which ought to have carried on the collateral circulation were present merely as minute threads. The speaker was convinced that the insufficiency of the aortic valves and the consequent diminished *vis a tergo* in the arterial system were the causes of the gangrene.

Total Extirpation of the Larynx.—Dr. Meyer then presented a larynx which he had removed entire, for cancer, from a man, sixty-five years of age, at the German Hospital, on November 11th. Six weeks previously the man had entered the hospital suffering from very severe dyspnœa. Tracheotomy was performed at once without anæsthesia. The superior entrance to the trachea was plugged by an osseous mass, which appeared to be sessile on the entire anterior circumference of the cricoid cartilage. The greater portion of it was removed with the bone scissors. Inferior tracheotomy gave quick relief. The laryngoscope had revealed an uneven, irregular swelling on the right side of the larynx, which, passing the anterior commissure, had begun to invade the left portion of the organ. The epiglottis was not involved. There was no reason to suspect tuberculosis of the larynx. As antisyphilitic treatment, carried on for a number of weeks, did not change the intralaryngeal swelling, the diagnosis of cancer was established, and the larynx was extirpated. Trendelenburg's tampon-cannula failed to work; hence an iodoformized sponge with a thread was pushed down to the tracheal tube and iodoform gauze put on the top of this. By this means, and by keeping the patient slightly in Rose's posture, not a drop of blood entered the bronchial system. The larynx could be shelled off the anterior wall of the œsophagus without injuring the same. The epiglottis was not removed. During the first three days the upper portion of the trachea was packed as during the operation. Subsequently only a strip of iodoformized gauze was put in. A soft-rubber catheter, introduced into the œsophagus through the wound, permitted regular feeding. The patient had made a quick recovery and was now doing well.

Partial Extirpation of the Larynx.—Another specimen presented by Dr. Meyer was the left half of a larynx which had been extirpated for traumatic stricture on the 17th of November. The patient had cut through his larynx, making an oblique wound, in an attempt at suicide. The knife had also opened the left side of the pharynx without injuring any important vessels. The man had then walked to the German Hospital, where he arrived about midnight. The house surgeon at once sewed the larynx at the side and in front, and also closed the external wound with stitches. The posterior aspect of the larynx and the pharyngeal wound were left open. A soft-rubber tube was introduced through the latter into the œsophagus for feeding purposes. The right portion of the cut healed by primary union, but on the other, where the opening of the pharynx was, suppuration set in. Ten days after the accident a tracheal tube with a hole at its curvature was inserted. The patient was unable to draw a single breath by way of the natural air-passages. Subsequent attempts at intralaryngeal manipulations, carried out by very able specialists, proved unavailing. Neither from the mouth nor from the wound in the ligamentum conoides could any of the instruments be pushed through the larynx. The speaker therefore resolved to perform laryngo-fissure and then seek to remove what was in the way. The trachea was first opened farther down, and a Trendelenburg's tampon-cannula inserted, and then the larynx split. It was found that a dense cicatricial mass encroached upon the posterior aspect of the larynx. This had resulted in the entire obliteration of the lumen of the organ. In addition thereto, the upper portion of the cut left half of the thyreoid cartilage had slipped downward and inward from the lower one. The left portion of the larynx, except the cricoid cartilage, was extirpated. The wound was loosely packed with iodoform gauze. The tampon-cannula remained in for thirty-six hours, and was then exchanged for an ordinary one. The patient had made an uninterrupted recovery, the temperature never rising above 100° F. He was still under treatment.

NEW YORK NEUROLOGICAL SOCIETY.

Meeting of January 6, 1891.

The President, Dr. L. C. Gray, in the Chair.

Therapeutic Experiments with Nitrogen Monoxide.—Dr. W. R. Birdsall related the results of a number of experiments made with this gas for the purpose of testing its therapeutic value. (To be published.)

Dr. R. L. Parsons said that his experiments with the gas had not given very satisfactory results. He had administered it in a case of melancholia with insomnia. It had produced a feeling of comfort and well-being during the time of inhalation, but the effects were very transient. In another case of opium habit and alcoholism, in which there existed intense muscular pain and insomnia on withdrawal of the opium, he had given the gas in the hope that it would compensate for the drug. During the administration the patient was fairly well pleased, but had become dissatisfied because the results were not permanent and were sometimes disagreeable.

Dr. W. M. Leszynsky said he had taken the opportunity to test this gas in asylum practice for cases of melancholia of mild type, but without any beneficial results. The gas required to be rapidly increased. He hardly thought the cylinder exhibited by the reader of the paper would hold gas enough to do much good.

Dr. W. J. Morton, Dr. C. L. Dana, and others spoke to the question, the general opinion seeming to be that nitrogen monoxide was not likely to rank very high as a therapeutic agent.

A Study of the Relation of Intercurrent Acute Diseases and Serious Injuries to Recovery in Two Thousand Cases of Insanity.—Dr. W. D. Granger read a paper with this title. He thought that the close attention paid to all of the details relating to the life and surrounding comforts of the insane had much to do in reducing to a minimum the intercurrence of acute diseases in this class of patients. In two thousand cases, extending over an observation period of eight years, the author had never seen acute articular rheumatism, but three cases of pneumonia, three of typhoid fever, and one of diphtheria. Sore throat was abundant, as it was usual in all aggregations of people. Erysipelas appeared from time to time. Epidemics were likely to appear. In spite of a common idea, and the reports of other observers, there was little to be told about the influence of disease on insanity. The simplest common affection from which the insane suffered was pain, often sudden and severe. Toothache often occurred, followed by alveolar abscess. It seldom produced fever. He had never seen more than temporary improvement from pain, though he believed severe toothache might produce recovery. Pain might increase all the mental symptoms, making mania more active, melancholia deeper, and even dementia more pronounced. Often it had no effect whatever, and often the severest pain seemed to be borne with indifference. Sometimes active mania was quieted and a rational and self-controlled condition approached. Melancholic patients of a decided type most often bore pain uncomplainingly, but sometimes showed marked mental improvement. In some sore throats, especially of the ulcerative varieties, mental improvement of a temporary nature was always expected. The conditions were like those observed in pain, though as a rule more pronounced. In some chronic cases of mania, with confusion and incoherence, the patients talked rationally, while the violent were quieted and often rational. Melancholia was less affected. Dementia was almost always brightened. The expression changed, the mind was more active, and the symptoms of venous congestion might partly disappear. In the cases of pneumonia observed, mental improvement occurred in one case only, but in that the change was remarkable. As soon as the disease waned the patient relapsed into his demented state. In pneumonia the improvement was only temporary. Out of seventy-seven patients with dysentery, only four could be said to have improved mentally. The author thought that his observations should teach how little truth there was in the notion of the beneficial influence of intercurrent diseases upon insanity. Considering severe injuries and their effects upon insanity, there was much more to be said in favor of the theory. The histories of six cases in which the patients had jumped from heights of from twenty-five to forty feet from the ground, some sustaining injuries and others not, but with marked mental improvement in all, were fully detailed. To attempt to explain the reason for improvement or recovery after either disease or injury would be, the speaker said, to involve one's self in an almost hopeless problem unless further research revealed more definite data upon which to work.

Dr. Parsons said that he had seen a few cases of intercurrent disease in which the patients, previously insane, had become entirely rational, but his experience was the same as that of Dr. Granger—that these results were not permanent. There was no doubt that, in some cases of insanity associated with epilepsy, surgical interference or other traumatisms would retard the explosions for some time. He had seen one case in which counter-irritation by means of a seton was kept up for some years without any recurrence of the fits; upon the healing of the outlet, an attack of acute mania had supervened.

Dr. E. D. Fisher thought that the idea propounded by Dr. Granger was the correct one. If it was a fact that there was no pathological lesion in mental disease, it could hardly be urged that intercurrent maladies could have any curative effects. But, in the functional forms, he could understand how an acute lesion, either from an injury or discharging sore, might have an effect by directing illusions or hallucinations into other channels. But in chronic disease, such as general paresis or mania, or other mental disease with a known pathology, he did not believe the intercurrent diseases would have any lasting effect.

A Contribution to the Diagnosis of Raynaud's Disease.—Dr. G. W. Jacoby read a paper on this subject. (See page 143.)

NEW YORK ACADEMY OF MEDICINE.

SECTION IN ORTHOPÆDIC SURGERY.

Meeting of December 19, 1890.

Dr. V. P. Gibney in the Chair.

The Non-operative Treatment of Delayed Union in Fracture of the Leg.—Dr. John Ridlon presented a paper upon this subject, illustrated by two cases. The first patient, Thomas C. B., thirty years old, unmarried, gave no history of any constitutional disease. On March 22, 1888, while endeavoring to escape a passing team, he had sustained a compound fracture of the right tibia in the lower third. The fracture had been treated by a plaster-of-Paris dressing under the direction of a very well known and skillful surgeon. The plaster splint had been renewed from time to time, yet on September 17th, when he was admitted to the Roosevelt Hospital, there was still slight motion at the seat of fracture, and Dr. Frank Hartley had found, on exposing the parts at the time of operation, that there was an oblique fracture of the tibia passing from below upward. The space between the fragments was filled with a thin wedge-shaped piece of fibrous tissue. At the inner edge of the fracture there was a thin line of bony union. The fragments were freshened and then wired together, and the plaster dressing applied. He had remained in bed for thirty-one days, but at the time of his leaving the hospital on October 22d the union was not solid. On December 27th he was transferred to Dr. Ridlon's care. On January 10, 1889, the plaster was removed. There was distinct antero-posterior motion and soft union, but no callus could be felt. There was some tenderness on motion and pressure at the point of fracture. Only moderate constriction was made, as the dependent position after the removal of the plaster had caused abundant œdema. The patient was allowed to go out of doors at once. At the end of nine weeks union was solid, and there was abundant callus. The patient said then that he had continued the use of the crutches for some time, but had removed the upper supporting part of the splint at the end of the third week, as it was uncomfortable. The lower portion of the splint, which acted only as a lateral support, he had continued to wear for about five months.

The other patient, William D., twenty-two years old, was admitted to the New York Hospital on May 26, 1890, with a compound comminuted fracture of the right leg at the middle and lower thirds. The bones projected anteriorly through a large lacerated wound; there was much displacement and much contusion. Dr. W. T. Bull had removed the loose fragments, and secured apposition and good drainage. A rise of temperature necessitated a change of dressing, and Volkmann's splint was applied for three weeks, and after this, plaster-of-Paris splint with a fenestra. Union was delayed. He was allowed to walk about on crutches and partly on the leg for two or three weeks prior to his discharge on August 5th for insubordination. At this time there was some deformity, and he was still wearing the plaster splint. When the patient came under Dr. Ridlon's care on September 22d no callus could be felt, but there must have been soft union, as the fragments could not be displaced. The plaster splint was discontinued, and in its place the caliper splint of Thomas, of Liverpool, was applied, being so modified as to prevent motion at the ankle. A laced leather sleeve was also added. A band buckled across the front just above the patella prevented forward bending of the knee, and another band below the knee surrounded the leg and outer bar and furnished the means of obstructing the circulation to any desired extent. The leather sleeve added to the patient's comfort, but care should be taken that it was not sufficiently tight to check the desired œdema. As a result of this treatment, solidification slowly but steadily took place, and an abundant callus was thrown out. At the end of nine weeks no motion could be detected, and he could walk across the room without the splint or any support. After the application of the splint, the crutch was used for only a short time, and he was soon able to walk three or four miles without discomfort; and after eight weeks he returned to his laborious occupation of unloading vessels.

These cases served to illustrate the treatment advocated by the author in cases of delayed union, which he was careful to distinguish from non-union or pseudarthrosis. The normal union of a fractured bone occupied a pretty definite period, and when delayed beyond this time it was properly a case for non-operative treatment, whereas such treatment was entirely inapplicable to cases of non-union. For delayed union, no cutting operation should be thought of until every other known means and an abundance of time had been expended. The present fashion of treating fractures by plaster-of-Paris bandages led to deficient immobilization, or else to constriction at the seat of fracture. The author thought no dressing had ever been devised for the treatment of fractures which so poorly accomplished the end in view—*i. e.*, immobilization without undue compression. Good results were obtained with these dressings, but their proper use required greater skill and experience than any other dressing. If plaster was applied before swelling occurred, it prevented the formation of the normal amount of callus, and in a certain number of cases resulted in delayed union. If applied after the occurrence of swelling, the dressing soon ceased to immobilize the part, and so not infrequently caused delayed union.

The treatment advocated by the speaker was that employed by Hugh Owen Thomas, and, in the words of that surgeon, consisted in "hammering, damming, depending, and fixing" the bones involved in the fracture. The hammering might be done with or without an anæsthetic, and should not be repeated oftener than once in two weeks. Dr. Thomas at first made use of intermittent constriction, but in 1881 he employed continuous "damming," and resorted less to hammering. The constriction should be sufficient to cause abundant œdema, but not enough to cause pain or interfere with the nutrition of the limb. The proper immobilization of the fracture was the most important element of treatment, and, to do this, the bones must be held without producing constriction at the seat of fracture, the muscles covering the part must be kept at rest by continuous fixed traction, and not nagged by elastic or intermittent traction, and the joints which were moved by these muscles must be absolutely locked. When there was a fracture of the bones of the leg, the knee and ankle must both be locked, and it was on this account that he had modified the caliper splint of Thomas in the way already described. This objection applied with even greater force to the well-known splint of Dr. H. H. Smith, of Philadelphia.

Dr. N. M. Shaffer said that his experience with ununited fracture dated back to 1876, when he saw in consultation an ununited fracture at the junction of the upper with the middle third of the femur. The injury had been received about three months previous, and there was much overlapping. He had applied pressure by means of a felt coaptation splint and a traction apparatus, which had allowed of the patient walking about with crutches. After a few weeks he had walked on the limb with the traction splint, and in about three months the parts were united. He had had since then three other cases of fracture of the shaft of the femur which he had treated in the same manner, and with equally good results. He thought that the method advocated in the paper was not necessary, and that as much could be done by securing apposition of the fragments, direct pressure at the point of fracture by means of a coaptation splint, and the maintenance of the good position by the use of some traction apparatus. Change of climate also exerted a strong influence.

Dr. A. B. Judson thought that cases of this kind which had been treated by Dr. H. H. Smith, as well as some treated by the late Dr. E. D. Hudson, of New York, showed that the desired result could be obtained by the use of an apparatus which would permit the patient to walk around. Union was brought about under these circumstances probably by the friction, irritation, and congestion of the parts caused by the walking. Dr. Thomas's experience seemed to confirm this view, but the treatment by hammering he considered cruel. He was reminded of a suit for malpractice which was brought against Dr. Garcelon, of Maine, on account of an ununited fracture. In order to excite sympathy in his behalf, the patient had applied a rough homemade apparatus and had gone about the country in this way for some time previous to the trial; but when the case came to trial, it was found that union had taken place.

Dr. S. Ketch spoke of a boy who had received a compound fracture of the femur which, by injudicious treatment, had failed to unite. When he saw the case in consultation, the boy was suffering great pain, and, partly with a view to relieving this, he applied a long traction splint without any coaptation splint. The pain was almost immediately relieved, and the local condition also improved, so that within a month he was walking about on a hip splint.

Dr. R. H. Sayre related his experience with a case of delayed union in a fracture of the leg occurring in a syphilitic subject who was also in the early stages of locomotor ataxia. He was a very heavy man, and there was a marked angular deformity. After irritating the ends of the bones by rather severe manipulation with the hands, he applied plaster of Paris and renewed it from time to time for six or eight months. During the first month he used crutches, but after this he was able to put the foot to the ground. At present there was firm union of both bones. In this case there was much œdema without the use of a constricting band, for the patient's heart and kidneys were in bad condition. Dr. Sayre thought that the hammering which the weight of the body produced upon the parts after they had been placed in position was more efficacious than a hammering of the sides of the fragments by means of a mallet. He thought it quite possible that too prolonged traction in cases of fracture of the femur might be responsible for some of these cases of non-union, for it was not improbable that more traction was often exerted than was sufficient to overcome the already tired muscles, and as a result the bones were drawn too far apart to secure good union. He could not accept Dr. Ridlon's criticisms upon the use of plaster of Paris as a surgical dressing for fractures in general. If properly applied immediately after an injury, and after the parts were in proper position, they could be immobilized, and there would be very little swelling. The swelling was often due to obstruction of the circulation by the abnormal position of the bones.

Dr. W. R. Townsend spoke of a case which he had presented to the Surgical Section last year. The boy had fractured his femur at Seabright, and, notwithstanding skillful surgical treatment, there was no union after three months. He was brought to the Hospital for Ruptured and Crippled in this city, and a long traction splint was applied which had enabled him to go about. Walking around, together with the change of air, had brought about speedy improvement, and after eight weeks there was good union and the apparatus was removed.

Dr. C. A. Powers said that a considerable number of persons with delayed union in fractured legs were yearly referred to him at the Out-patient Department of the New York Hospital after their discharge from the wards. It was his invariable custom to have them walk about with a light plaster-of-Paris splint, and his results had been uniformly good. He had certainly treated during the last year six or eight such cases, and in no instance had it been necessary for them to return to the Indoor Department on account of failure to secure good union. He was familiar with the history of Dr. Ridlon's second patient, who was originally a patient in the New York Hospital. He believed that had this patient walked about without the application of a brace, he would most probably have obtained good union in about the same length of time. The delayed union in this case was distinctly due to the severe nature of the compound fracture, this being followed by suppuration and some necrosis. He thought the means advised by Dr. Ridlon excellent, yet braces of this kind were not easily within the reach of many country practitioners, and more convenient means would accomplish the same results. He could not understand Dr. Ridlon's strictures upon the use of plaster of Paris, and he heartily indorsed what Dr. Sayre had said on this subject. If deprived of the use of plaster of Paris he would feel that he had lost the most valuable of all means at his command for treating fractures of the leg or arm. Out of five or six hundred cases of fracture of the upper extremity which had been under his care, there had been very few cases of delayed union which had not yielded to rubbing of the ends of the bone, blistering, or very light hammering, the latter not sufficient to cause pain. In two or three obstinate cases the ends of the bones had been drilled; the patients were treated as out-patients, and invariably with good results. He did not remember that he had ever been obliged to refer a patient to the hospital for operative treatment. He thought that like good results would follow this plan of treatment in most cases of delayed union in fractures of the leg.

Dr. Ridlon thought that the application of a snug plaster or other bandage lessened the amount of swelling, and that the less swelling the less the callus, and *vice versa*. There was no question about the efficiency of plaster of Paris when skillfully applied, but it was not always so applied, and he had seen very unpleasant results from its use. As regarded the effect of walking about, he would say that his first patient had walked around his room with a well-adapted plaster splint for two months and a half after the operation without any gain in solidification, whereas three days after beginning the treatment which he had described the patient was able to walk some distance. The second patient had been walking around in the hospital with crutches, and, after leaving there, continued to do so for about three months more before coming under his care. Under the new treatment he was able to dispense with one crutch at once and with the other very soon afterward and at the end of eight weeks returned to his work. These two cases were, of course, not sufficient basis for any definite conclusions, but they were presented for the purpose of illustrating a plan of treatment not very commonly known or employed here.

Dr. Royal Whitman presented a case of fracture of the neck of the femur in a child aged seven years.

Uniform Nomenclature in Orthopædic Surgery.—Dr. W. R. Townsend took this for the theme of his paper. He said that the object of writing this paper was to elicit a discussion from the members of the Orthopædic Section of the Academy of Medicine upon a subject to which of late little attention seemed to have been paid, yet to which much attention and time must be given, unless one was continually provided with a dictionary when reading; for, to read intelligently the medical literature of to-day, a study of etymology and synonyms was all-important, and, even with this knowledge, we might still often be in doubt as to what disease was referred to, as some authors described somewhat different affections under the same name. The spondylitis of medicine was essentially different from the spondylitis of surgery. The former was a rheumatoid peri-arthritis, affecting chiefly the spinous processes and lateral masses, the inflammation encroaching on the foramina of exit and producing various painful neuralgias; the latter was Pott's disease, or tubercular osteitis of the vertebræ, etc. Many reasons existed for this confusion and multiplication of terms. Many diseases were so inaccurately described at first that the name suggested could easily be improved upon, and later writers had done so, with a view of simplifying matters, and had thus increased our list of synonyms. Again, popular terms or names that could be easily understood by the laity had been introduced from time to time until, in some cases, such terms had almost entirely superseded the more exact and scientific ones. Increased knowledge, such as the discovery of the tubercle bacillus, had caused us to classify some diseases as tubercular, just as we classified others as syphilitic or malarial, and this list would probably be still further increased. In a recent work on orthopædic surgery the same morbid process or disease, when it affected the spine, was known as Pott's disease; when affecting the hip or sacro-iliac joints, as hip disease, or sacro-iliac disease; when affecting the knee, as tumor albus; and, in the case of other joints, simply as ankle joint or tarsal disease, etc. Of course, all, or nearly all, the other terms in common use were referred to, but it was under these headings that the disease was described. The Hospital Reports of the Roosevelt, New York, St. Luke's, Mount Sinai, the Children's Hospital, Boston, the New York Orthopædic, and the Hospital for the Relief of the Ruptured and Crippled showed this same variety of expression. In them we read of hip disease, hip-joint disease, tuberculosis of the hip, tuberculosis of the hip joint, morbus coxæ, chronic disease of the hip joint, and osteitis of the femur. In other words, in seven different reports we had seven different names for the same disease. Other examples could easily be cited. This multiplication of terms led to confusion and much difficulty in actually arriving at a true idea of the relative frequency of any one disease, unless we thoroughly appreciated these facts, for who could say that the disease was of the same nature when on one page we read of tuberculosis, on the next of caries, and on the next of osteitis of the tarsus? Much of this variety and confusion of terms could easily be avoided. This problem, although presenting difficulties, ought to be discussed. Its solution depended simply upon the profession agreeing upon certain terms to describe certain diseases and then strictly adhering to them. More care in diagnosis would result; a synovitis or arthritis would not be classified as an osteitis, and all the different diseases of the knee, for instance, would not be included under the terms white swelling or knee disease.

Dr. Ketch offered his congratulations to the author for the novel and interesting subject upon which he had written. He thought, however, that it would be very difficult to find one name which would cover the various conditions of disease found at the hip joint. He agreed with the author of the paper that such terms as "tumor albus" and similar expressions should be discarded.

Dr. H. W. Berg thought pathology was at present too vague to admit of the use of a more exact nomenclature.

Dr. R. H. Sayre reminded the members that Dr. J. W. S. Gouley had devoted much time and labor to the preparation of an exhaustive work on medical nomenclature and the classification of diseases. In it were mentioned terms which were very curious, although etymologically correct, and the profession would be slow to adopt such expressions. For instance, castration was spoken of as *orchiectomy*.

Dr. Judson was of the opinion that there was no likelihood of any one being led astray by the present nomenclature, and other authors besides Dr. Gouley had expended much labor upon similar works, which were of doubtful utility.

Dr. Townsend said that his paper had been misunderstood, for no question of pathology was involved. He had simply deprecated the use of so many terms to express one and the same condition.

Tuberculous Joint Disease treated with Koch's Liquid.—Dr. N. M. Shaffer presented, on behalf of Dr. T. Halsted Myers, a report of the following cases:

Case I.—Girl, thirteen years. Hip-joint disease had existed for three years; abscesses discharging more or less for two years and ten months. Moderate glandular enlargements existed all over the body.

December 15, 1890.—Examination showed no deformity except shortening and muscular atrophy. The motion at the joint was very considerable, and no pain had been felt for months. Abscesses below the great trochanter discharged through six sinuses, several of them near together, surrounded by a dark-purple areola, covering an area of about two by three inches. This patient received half a milligramme of Koch's liquid at 3.30 p. m. No reaction was observed.

17th.—A second inoculation of half a milligramme was followed by a slight reaction, the temperature rising to 101° F. No change was noticed in the condition of the joint. Two of the sinuses were closed, and the discharge from the other was unchanged.

19th.—The purple areola had disappeared, leaving only little red islands about each sinus. The skin had become dry and scaling where it was previously necrotic.

Case II.—Boy, six years. Had bad hip disease twenty-six months; abscess discharging intermittently for four months.

December 15th.—Half a milligramme of the liquid was injected at 3.30 p. m. Examination at that time showed the limb to be flexed at 155°, abducted 15°, rotated outward 30°. There were shortening and atrophy, and a sinus was about to open again. The limb was moderately sensitive, and there was less than 10° of flexion. Reaction came on in ten hours. Temperature at that time 101·4°; night-cries began anew, and the joint became very painful. On the following morning this was very evident, and there was hardly any motion in the joint. Flexion and abduction were also increased, and the inguinal and cervical glands seemed larger. With the fall in temperature, the pain and deformity also diminished markedly, but not entirely, and the original amount of motion was restored.

18th.—A second inoculation of half a milligramme was given, and again the temperature rose, the joint became acutely sensitive and more deformed, and motion was practically *nil.* This was the condition at noon. The site of the sinus was no longer purple, and was covered by dry, scaly skin.

Dr. Shaffer also presented a report of some of his cases which had been treated according to this method.

Dr. R. H. Sayre asked if much of the increase of pain noticed in one of the cases might not be due to the removal of the apparatus.

Dr. Shaffer replied that this patient had previously been in bed for days at a time without the apparatus, and yet had not experienced any such pain as was present after the inoculation.

Dr. Berg thought that some of the phenomena observed might be referable to the fever which was present, just as an increase in the joint symptoms was sometimes noticed during the progress of the acute exanthemata.

Dr. Shaffer said that he had seen patients with joint disease suffer no exacerbation during the course of a typhoid fever, in which the temperature frequently reached 105°, and scarlatina also often failed to affect the condition of a diseased joint. Measles, on the contrary, was particularly prone to increase the severity of the joint symptoms. Hence there was something more than fever necessary to account for the influence of certain diseases on the condition of a joint, and in one of Dr. Myers's cases there was no fever, and yet marked improvement followed the inoculation.

New Inventions, etc.

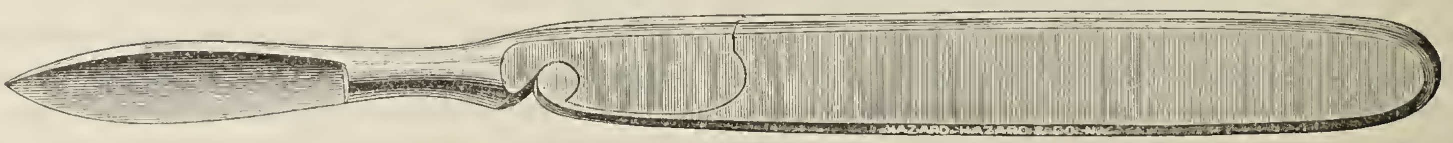
ASEPTIC POCKET-CASE INSTRUMENTS.

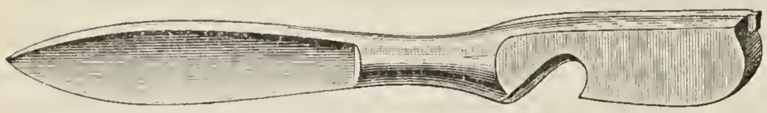
By James Johnston, M. D.

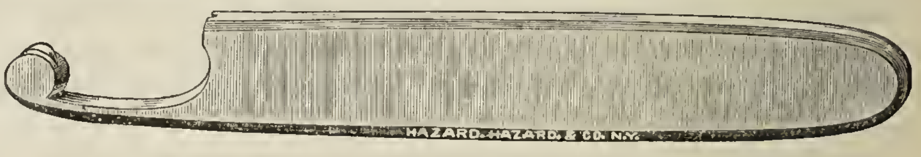
This device is designed as an improvement on the present means used in securing blade to handle in detachable pocket-case knives. All forms of joints, whether hinged or detachable, hitherto in use have had the merit of convenience along with the objection that the mechanism has been more or less a nuisance and especially difficult to clean. In spite of this serious objection, the convenience of the arrangement has been so highly appreciated that detachable knives are easily first in general favor. The plan of separating handle from blade has long been practiced, but this invention I humbly believe to be a better and more satisfactory means of accomplishing the object. In fact, I believe this to be the attainment of the highest possible aim in the construction of a modern aseptic instrument.

The knife is of metal throughout, ground to shape, both handle and blade, from solid forgings. Side pieces of wood or hard rubber may be laid on, back of the joint; but these, however well laid on, are liable to separate with time and hard usage, and can not at any time be subjected to the vigorous cleansing that bright, smooth metal seems to invite. When the weight of the solid handle would be an objection, the plated rubber handle made by Messrs. Hazard, Hazard, & Co., which practically does not differ from a solid handle except in lightness, will perfectly supply its place; but in this the manufacturer will cater to his customers and make his handles to suit the demand.

The one particular feature of this knife is the joint. The inventor points with satisfaction to the fact that this union of the handle and blade is effected without in any way altering the shape or general contour of either, that it is effected without the addition of any third piece of material (the handle and blade alone form the joint and grip themselves firmly together), there is no slot to become choked, no crevice to retain dried blood or rust. Every portion of both handle and blade can be examined, brushed, and cleaned, and, even if the knife is laid away uncleaned, the blade can never be so dried or rusted into place that it can not readily be detached. There is nothing to lose or become loose, no added mechanism to get out of order, no set screws, pins, rivets, slide-catches, ratchets, or springs, nothing to rust, nothing to break, no place for dirt, nothing to wear out. The joint is made to be opened by a force applied in one particular direction. Any force in any other direction serves only to make the joint tighter, and it can not be broken—*i. e.*, injured—by any force liable to be met with in any legitimate use. The direction in which this opening force is to be applied is exactly opposite to the direction of the force applied in the use of the cutting edge. Breaking—*i. e.*, unlocking—the joint by bearing on the cutting edge, by lateral pressure, by bending, twisting, or pulling, is practically an impossibility, while the degree of force required to unfasten from the back is established by the maker of the instrument and is such as will render the lock secure against accidental opening, yet readily unfastenable at will.







It depends entirely on the stiffness of the prolongation of the handle. The parts separate themselves instantaneously when unfastened. It is not one thing to unlock the parts and another thing to separate them. A surgeon may be using one blade and desire to change for another; he presses the back of his blade on the table and the first blade is immediately detached; if his assistant in passing the second blade holds it firmly, face upward, on the table, the operator spends a single instant in fitting the point of his handle accurately, and picks up his second blade with a snap. The whole time spent in making the change is scarcely greater than would be required in laying down one instrument and picking up another, and one hand only is employed.

I desire to express my thanks to Hazard, Hazard, & Co.—who have already made me a case of these instruments that have met with the approval of my professional brethren—for their assistance.

Miscellany.

Medico-legal Notes.—Henry A. Riley, Esq., sends us the following:

Physical Examinations in Damage Cases.—The interesting question whether the courts have a right to order the physical examination of a plaintiff in an action for personal injuries, without regard to its being consented to or not, has been lately considered by the Alabama Supreme Court, and a decision given in favor of the rule allowing such an examination. After discussing the weight of authority the Court held the following propositions to be established: "First. That trial courts have the power to order the surgical examination by experts of the person of a plaintiff who is seeking a recovery for physical injuries. Second. That the defendant has no absolute right to have an order made to that end and executed, but that the motion therefor is addressed to the sound discretion of the Court. Third. That the exercise of that discretion will be reviewed on appeal and corrected in case of abuse. Fourth. That the examination should be ordered and had under the direction and control of the Court, whenever it fairly appears that the ends of justice require the disclosure or more certain ascertainment of facts which can only be brought to light or fully elucidated by such an examination, and that the examination may be made without danger to plaintiff's life or health, and without the infliction of serious pain. Fifth. That the refusal of the motion where the circumstances present a reasonably clear case for the examination under the rule last stated, is such an abuse of the discretion lodged in the trial court as will operate a reversal of the judgment in plaintiff's favor."

Injuries from Icy Sidewalks.—The present severe winter is likely to result in a large number of suits against city and town authorities for injuries suffered from icy sidewalks, and it is of interest to know that the rule requiring safe means of locomotion is of almost universal adoption. The main reliance of plaintiffs is on what is termed "constructive notice," because it is very often the case that no actual knowledge of an icy sidewalk can be brought home to the responsible authorities. Under such circumstances if the sidewalk has remained a considerable time in its unsafe condition, the city is held to have had "constructive notice" of the danger and must respond in damages should an accident occur.

In a recent Connecticut case the authorities were warned of the condition of affairs, and so the liability seems to be doubly imposed. It appeared in this case that the officials had failed to clean out a gutter which they knew to be obstructed, and, in consequence, the water from melting snow flowed upon the sidewalk and froze there. A lady, walking over the ice, fell and received serious injuries, and brought a suit to recover damages. For several weeks the sidewalk had been covered with water for a considerable distance on each side of the place of injury whenever the weather was warm enough to melt the adjacent snow, and of this condition of affairs the street commissioner had been twice notified, and informed that an accident was probable. The difficulty could have been removed and the sidewalk made safe if the gutter had been properly cleaned. This does not seem to have been done, and the Court held that the city must pay for the harm resulting.

American Pork in Germany.—A very large number of Americans are interested directly or indirectly in the question whether pork from this country shall be admitted to Germany, and it has been alleged that the refusal was largely attributable to a desire to retaliate for some of the ill effects of the McKinley tariff. A vote has, however, just been taken in the Reichstag, which is based, so far as the debate shows, on purely sanitary grounds. The motion to exclude was carried by a majority of 133 to 103. Dr. Von Boetticher stated on behalf of the Government that not a single consignment of pork coming into Germany over the Russian frontiers had yet proved to be free from disease, and that he had no confidence in the American system of meat inspection. There had been a case of trichinosis at Cologne, he said, which had been attributed to American pork smuggled in from Holland. Those who favored the admission of the American product did it upon the ground mainly that the price of meat for the poorer classes would in this way be lowered. This argument was not powerful enough, however, to overcome the opposition of the Government, and consequently the exclusion was directed to be continued.

Pain in Amputated Limbs as a Basis for Damages.—The sensation of pain which seems to come from an amputated limb is often mentioned by persons who have had accidents of a serious nature, and the question whether this special kind of pain is a proper basis for compensation came up in a New York court not long since. The action was against the Delaware, Lackawanna, and Western Railroad, and one of the defenses was that this pain was purely imaginary and a delusion; that, the arm having been cut off, there could not possibly be any pain located in it. The plaintiff was allowed to testify on the trial that he had suffered continuous pains seemingly located in the amputated hand and arm, and on appeal it was contended that such testimony was improperly allowed. The Court of Appeals has just decided that the objection was not well taken and that the testimony was perfectly competent. The Court said: "The reason urged in support of the exception is that such pain was imaginary and a pure delusion and not the direct or natural result of the injury; the plaintiff had mentioned this as part of the painful suffering he had endured after the accident and the amputation of his arm; and whatever was its nature, if his statement was true, the sensation was that of pain and the result of the injury. And if the sensation of suffering from it actually existed and was attributable to such cause, the evidence came within the rule of admissibility. Pain is but the sensation of a condition which produces it, and the fact that it seemed to the plaintiff to come from or to be in the hand and amputated arm, as if their connection with the body remained, is only descriptive of the pain he suffered. It was no less the subject of consideration because the location of it was deceptive."

A Physician's Strange Will.—Dr. Charles F. Heuser, an eccentric physician living in Baltimore, has just died, leaving a will directing that within twelve hours after his death a surgeon should cut out his heart in the presence of witnesses, after which his body should be cremated and the ashes placed in little silver phials and distributed among his friends. The first part of the direction was carried out by an operation performed by Dr. Adolph Boehm, in the presence of a number of physicians and medical students, besides some friends of the dead doctor. The heart of the deceased was removed and then replaced in the body. The doctor's peculiar request was accounted for by his horror of being buried alive. It has been a family custom of the Heusers to have their bodies mutilated after death. Dr. Heuser after his wife's death drove a knife into her heart.

The Liability for the Care of Lunatics.—The question whether the county or the smaller division of the town is liable for the support of a lunatic is often a matter of some importance in this State, and the law of 1874 has not been fully understood in all its provisions. That law provides that the expenses of a lunatic in a State Asylum shall be defrayed by the town to which he is "chargeable," and that the expense of any patient received on the order of any court or officer shall be paid by the county from which he is sent, but that such county may require the individual that is "legally liable" for the support of such patient to reimburse the amount. In a recent case an indigent insane person was committed to the State asylum on the certificate of a county judge, and the question arose whether the county or the town was liable for his support. The first decision held the town to be liable, but this was reversed on the ground that the indigent insane person not being actually a pauper, the town was not "legally liable."

The Sears Laboratories of the Harvard Medical School are described as follows in the *Boston Medical and Surgical Journal* for January 29th:

The building for these laboratories was designed by William Whitney Lewis, of Boston, who has very satisfactorily carried out the demands made upon him. It was desired that as much room and light should be obtained as the gift, thirty-five thousand dollars, would permit; and it was agreed that the finishing should be of the simplest possible nature. The length of the building, which is of brick, is eighty-eight feet, the width thirty feet. It consists of three stories and a basement. It faces to the north, and its length is equally divided into window-space and wall-space. The upper story is also lighted by a large window in the roof. Each floor is divided by transverse wooden partitions, and the rooms thus separated are lighted from the south as well as from the north. The brick walls are left bare; the floors are of heavy timber supported on transverse beams which span the space between the walls. The rooms are heated by the indirect method. Each stack of steam-pipes, incased in a galvanized iron box, stands against the wall, and receives its independent supply of fresh air through an opening in the wall just behind the stack. A ventilating chimney on the south side of the building provides an exit for the air. An iron staircase, incased in a brick well, furnished with tinned doors, between the medical school building and the Sears building, furnishes the means of reaching the laboratories.

The first floor is on a level with the students' study, through which general admission to the Sears building takes place. The second floor is on a level with the physiological and chemical laboratories, and may be entered directly from the former. The third floor is a few feet below that of the museum, which may be entered by a way beneath the seats of the amphitheatre. This freedom of communication makes the Sears building a part of the medical school building, with which it is immediately connected.

The basement is divided into rooms for the care of animals, a cold room for the bacteriological laboratory, and a room for storage. A lift ascends in the well to the top of the building from this floor, and a doorway opens from the well into the basement of the medical school building.

The first floor is a bacteriological laboratory, and is under the charge of Dr. H. C. Ernst. It is intended for the use of advanced students in this science, the undergraduates being provided for in the bacteriological laboratory on the same floor in the main building. The new laboratory contains several small rooms, in each of which one or two workers may carry on investigations with the least possible interference. One room is provided for the sterilizing ovens, another for the storage of cultures, while the constant temperature apparatus is under observation in the largest room from which the others open. An operating room is provided, also a chemical laboratory for the study of ptomaines, and a special room for the cleansing and storage of glass-ware.

The second floor is divided into two large laboratories, both under the immediate charge of Dr. W. F. Whitney, and are intended for the use of special students in pathology and pathological anatomy. The laboratory first entered has wall-tables for twelve persons, and opportunities for as many more can be furnished, if needed. This room contains a chemical hood, a hooded sink, and a large central table. The latter and the wall-tables are furnished with drawers and lockers. A doorway leads into the second laboratory, which is of equal size, and is occupied by Dr. Whitney, Dr. Gannett, and Dr. Sears. It contains the library of the laboratory, the nucleus of which was given by Miss Lucy Ellis from the library of her brother, the late Dr. Calvin Ellis, whose interest in the school where he was for so many years a professor, and especially in the study of pathological anatomy, was most devoted. Dr. Sears has added his own medical library to the Ellis collection, and it is intended that an efficient working library shall be one of the features of the laboratory. Two small adjoining rooms are fitted up—one for an assistant, the other as a workroom in which the coarser kinds of mechanical work are to be carried on.

The third story is open throughout the greater part of its length, being designed for the use of the entire class, a hundred, more or less, of undergraduate students in pathology and pathological anatomy. Demonstrations are held in this room twice a week. Practical exercises in pathological histology are given on two other days. Special instruction is also given here to classes of fourth-year students and graduates who wish to continue their study of pathological anatomy without devoting a considerable amount of time to the subject. Students are at liberty to use this room at any time.

Connected with this class-room is one extending the width of the building and intended for photographic purposes. The north windows are sheets of plate-glass, and there is a vertical window in the roof. Three dark rooms are partitioned off, in which every convenience is to be had for the treatment of negatives.

It will be seen from this brief statement that the Sears Laboratories offer facilities for more or less advanced study in pathology, pathological anatomy, and in bacteriology. Not only is ample provision made for the beginner, but it is intended also to offer every encouragement to those who desire to know something more than everybody knows. In particular it is hoped that special workers may be attracted to the laboratory, and by their investigations help to extend its efforts in promoting exactness in the study of disease.

Mortality in Cities in the United States.—The following table represents the mortality in the cities named, as reported to Dr. John B. Hamilton, Surgeon-General of the Marine-Hospital Service, and published in the Abstract of Sanitary Reports for January 30th:

CITIES.	Week ending—	Estimated population.	Total deaths from all causes.	DEATHS FROM—										
				Phthisis pulmonalis.	Yellow fever.	Small-pox.	Varioloid.	Varicella.	Typhus fever.	Enteric fever.	Scarlet fever.	Diphtheria.	Measles.	Whooping-cough.
New York, N. Y.	Jan. 24.	1,659,398	748	....	..	..	..	..	..	3	20	22	33	17
Chicago, Ill.	Jan. 24.	1,200,000	470	....	..	..	..	..	..	15	5	14	9	4
Brooklyn, N. Y.	Jan. 24.	853,945	376	....	..	..	..	1	..	2	9	20	4	2
St. Louis, Mo.	Jan. 17.	460,000	....	....	..	..	..	..	..	1	2	3	..	1
Boston, Mass.	Jan. 24.	448,477	195	....	..	..	..	..	..	2	1	2	2	....
Cincinnati, Ohio	Jan. 23.	325,000	111	11	..	..	..	..	..	5	..	5	..	....
Cleveland, Ohio	Dec. 27.	262,000	81	10	..	..	..	..	..	5	1	7	1	....
Cleveland, Ohio	Jan. 3.	262,000	86	9	..	..	..	..	..	4	2	5	..	....
Cleveland, Ohio	Jan. 10.	262,000	78	6	..	..	..	..	..	3	1	2	..	....
Cleveland, Ohio	Jan. 17.	262,000	81	6	..	..	..	..	..	2	..	3	1	....
Detroit, Mich.	Jan. 10.	250,000	122	....	..	..	..	..	..	..	..	5	..	...
Detroit, Mich.	Jan. 17.	250,000	77	....	..	..	..	..	..	..	2	4	..	....
Washington, D. C.	Jan. 17.	250,000	92	....	..	..	..	..	..	5	..	8	..	....
Milwaukee, Wis.	Jan. 17.	220,000	81	....	..	..	..	..	..	3	1	8	..	....
Milwaukee, Wis.	Jan. 24.	220,000	71	....	..	..	..	..	..	..	1	6	2	1
Newark, N. J.	Jan. 24.	194,954	94	17	..	..	..	..	..	3	..	1	..	1
Rochester, N. Y.	Jan. 24.	138,000	32	....	..	..	..	..	..	..	..	1	..	....
Providence, R. I.	Jan. 24.	135,000	42	..	..	..	..	..	..	..	1	..	..	....
Richmond, Va.	Dec. 6.	100,000	45	2	..	..	..	..	..	2	..	6	..	....
Toledo, Ohio.	Jan. 23.	82,652	29	....	..	..	..	..	..	..	..	3	3	....
Nashville, Tenn.	Jan. 24.	76,369	37	5	..	..	..	..	..	..	..	..	..	....
Fall River, Mass.	Jan. 17.	75,000	26	...	..	..	..	..	..	..	..	..	..	....
Fall River, Mass.	Jan. 24.	75,000	23	....	..	..	..	..	..	..	..	..	..	....
Charleston, S. C.	Jan. 17.	65,165	42	7	..	..	..	..	..	1	..	..	..	....
Charleston, S. C.	Jan. 24.	65,165	38	1	..	..	..	..	..	1	..	..	..	....
Galveston, Texas.	Jan. 9.	40,000	13	1	..	..	..	..	..	..	..	..	..	....
Binghamton, N. Y.	Jan. 24.	35,000	8	....	..	..	..	..	..	..	..	..	..	....
Auburn, N. Y.	Jan. 24.	25,000	9	...	..	..	..	..	..	..	..	..	..	....
Newport, R. I.	Dec. 13.	20,000	3	....	..	..	..	..	..	..	..	..	..	....
Newport, R. I.	Dec. 20.	20,000	3	....	..	..	..	..	..	..	..	..	..	....
Newport, R. I.	Jan. 8.	20,000	3	....	..	..	..	..	..	..	..	..	..	....
Newport, R. I.	Jan. 15.	20,000	3	...	..	..	..	..	..	..	..	1	..	....
Pensacola, Fla.	Jan. 17.	15,000	3	....	..	..	..	..	..	..	..	..	..	....

A Proposed Colony for Epileptics.—The following is the text of a bill introduced before the Legislature of the State of New York on the 29th ult.:

An Act providing for the appointment of commissioners to establish a colony for epileptics in the State of New York.

The people of the State of New York, represented in Senate and Assembly, do enact as follows:

Section 1. Three persons, two of whom are residents of New York County, possessing expert knowledge of the needs of epileptics and the epileptic insane, and one of whom is a resident of Westchester County, shall be appointed by the Governor within ten days after the passage of this act, and shall constitute a commission to determine upon the manner of providing for the education, employment, care, and treatment of all the epileptics and epileptic insane of this State, including those now congregated in the almshouses and insane asylums upon public charge, and also those not under State or county care. Said commission is authorized to select a site in Westchester County, as near as convenient to New York city, to consist of not more than three hundred acres of farming and wood land; to adopt plans which shall furnish provision on the cottage or pavilion system ultimately for from one thousand to two thousand epileptics, such plans to include methods of heating, lighting, sewerage, water-supply, and prevention of danger from fire, and, in addition to accommodations for dwelling purposes, to include school-rooms, workshops, a hospital, a pathological laboratory, and outbuildings for agricultural, floricultural, horticultural, and dairy purposes.

Said commission shall provide the land needed by purchase or otherwise.

Sec. 2. The members of said commission, before entering upon the duties of their office, shall take and subscribe an oath or affirmation, before some competent authority, faithfully to discharge all the duties required of them by this act. They shall each be entitled to receive the necessary expenses incurred while discharging the duties assigned them.

Sec. 3. When said commission shall have selected a site and complied in all respects with the provisions of section one of this act, a report thereof shall be made in writing by said commission to the Governor, who shall thereupon appoint seven managers, who shall approve of the plans and let the contract, and have charge of the erection of the buildings, as provided by law. Said managers shall be appointed and confirmed according to the laws governing the appointment of managers of other benevolent institutions of this State; provided, that the said commissioners and managers shall not enter into any contract for the erection of said buildings until the money has been appropriated by the Legislature to pay for the same.

Sec. 4. That there be and is hereby appropriated out of any money in the treasury to the credit of the general revenue fund, not otherwise appropriated, the sum of ten thousand dollars for the expense of said commission, and for the purpose of complying with the provisions of section one of this act.

The accounts of expenditure, including the expenses of the commission, shall be audited and allowed by the Comptroller of the State.

Sec. 5. This act shall take effect immediately.

To Contributors and Correspondents.—*The attention of all who purpose favoring us with communications is respectfully called to the following:*

Authors of articles intended for publication under the head of "original contributions" are respectfully informed that, in accepting such articles, we always do so with the understanding that the following conditions are to be observed: (1) when a manuscript is sent to this journal, a similar manuscript or any abstract thereof must not be or have been sent to any other periodical, unless we are specially notified of the fact at the time the article is sent to us; (2) accepted articles are subject to the customary rules of editorial revision, and will be published as promptly as our other engagements will admit of—we can not engage to publish an article in any specified issue; (3) any conditions which an author wishes complied with must be distinctly stated in a communication accompanying the manuscript, and no new conditions can be considered after the manuscript has been put into the type-setters' hands. We are often constrained to decline articles which, although they may be creditable to their authors, are not suitable for publication in this journal, either because they are too long, or are loaded with tabular matter or prolix histories of cases, or deal with subjects of little interest to the medical profession at large. We can not enter into any correspondence concerning our reasons for declining an article.

All letters, whether intended for publication or not, must contain the writer's name and address, not necessarily for publication. No attention will be paid to anonymous communications. Hereafter, correspondents asking for information that we are capable of giving, and that can properly be given in this journal, will be answered by number, a private communication being previously sent to each correspondent informing him under what number the answer to his note is to be looked for. All communications not intended for publication under the author's name are treated as strictly confidential. We can not give advice to laymen as to particular cases or recommend individual practitioners.

Secretaries of medical societies will confer a favor by keeping us informed of the dates of their societies' regular meetings. Brief notifications of matters that are expected to come up at particular meetings will be inserted when they are received in time.

Newspapers and other publications containing matter which the person sending them desires to bring to our notice should be marked. Members of the profession who send us information of matters of interest to our readers will be considered as doing them and us a favor, and, if the space at our command admits of it, we shall take pleasure in inserting the substance of such communications.

All communications intended for the editor should be addressed to him in care of the publishers.

All communications relating to the business of the journal should be addressed to the publishers.

THE NEW YORK MEDICAL JOURNAL, February 14, 1891.

Original Communications.

A CASE OF ARTERIO-VENOUS ANEURYSM OF THE UPPER EXTREMITY.

By FREDERICK KAMMERER, M. D.,
SURGEON TO THE GERMAN AND ST. FRANCIS HOSPITALS.

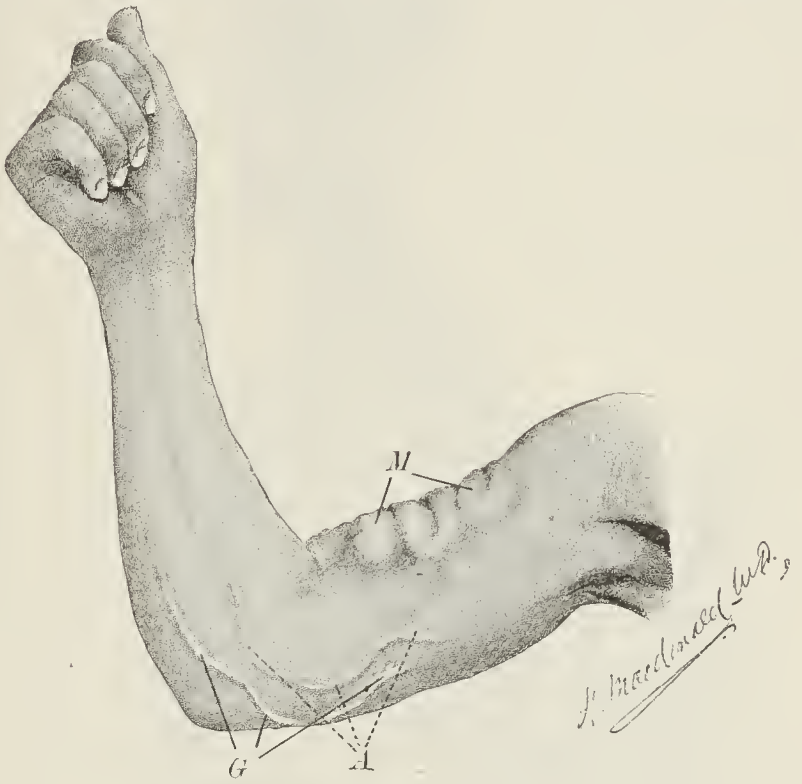
(*Illustrated by Dr. H. Macdonald.*)

The patient, who came under my care through the courtesy of Dr. G. Schlegel, of this city, was a man of about fifty-five years. Some twenty-six years ago, while he was handling a revolver, the weapon was accidentally discharged, the ball entering the lower third of the right humerus very near the bicipital groove. The condition of the arm now existing was said to have developed very soon after the injury, but it has become much more aggravated during the past years. A year after the accident, according to the patient's statement, some operation was performed at the seat of the injury by the late Dr. Krackowizer, of this city; the nature of this operation has not become apparent from the post-mortem examination of the arm. There is no other scar than that caused by the bullet, which is readily recognized as such.

The patient was presented by myself about six months ago at the New York Surgical Society, and, as some difference of opinion existed regarding the changed circulation in the extremity, a committee, consisting of Dr. McBarney, Dr. Lange, and Dr. Stimson, was appointed to report on the case. Its report, printed in the *New York Medical Journal* of May 10, 1890, was as follows: "The man had a large mass occupying the inner aspect of the arm, and on the outer aspect there was the tortuous dilated cephalic vein receiving blood by a current from the median basilic and median cephalic; that the mass of dilated veins extended into the axilla; that there was a superficial artery on the inner side of the arm corresponding to the brachial artery, pressure on which, however, did not arrest the pulsation in the mass referred to, and therefore was not a direct factor in the condition. Pressure at the site of the scar and for an inch below it would arrest the pulsation in the dilated veins on the anterior portion of the arm; the radial pulse persisted in spite of such pressure. The point of communication between the artery and vein was within a very short distance below or immediately at the site of the scar. It was impossible to say what had been done at the time of the operation referred to, or how the main arterial circulation was carried on." I am glad to say that in the most important particulars this report is corroborated by the anatomical facts.

The patient succumbed to an attack of pneumonia a few weeks ago. After exarticulating the extremity at the shoulder joint, I injected it from the axillary artery with a mass of liquefied gelatin and cinnabar. Very little force was necessary to drive in the injecting fluid, and very soon, under an even pressure of about two feet, the cephalic vein began to distend, showing evidently that an easy communication existed between this vein and the brachial artery. Dissection of the arm revealed the following conditions:

The superficial artery (A), which could be plainly seen and felt in the living patient, running over the pulsating mass at and above the bend of the elbow to the middle of the forearm, proves to be a superficial ulnar artery (A), which is given off in the axilla. In the upper part of the arm it lies immediately over the brachial artery (B), and therefore pressure upon it appeared to me to arrest pulsation in the distended veins on the anterior part of the arm. At the middle of the forearm it passes underneath the palmaris longus and flexor sublimis muscles into the groove between the sublimis and flexor carpi ulnaris muscle. The brachial artery communicates at the middle of the humerus (C) with an elongated sac (D), which on closer investigation turns out to be one of the brachial veins. This sac terminates abruptly two inches above its communication with the artery, and, although I have practiced most careful dissection, no trace of an obliterated vein has been found as a continuation of it into the axilla. The other brachial vein has been discovered beneath these parts, between them and the shaft of the humerus. The sac itself extends to the bend of the elbow (D), having on its anterior surface the superficial ulnar artery (A) and the median nerve (E).* It gives off several branches which, after continuing a short distance, empty again into the sac. The latter passes beneath the semilunar fascia of the biceps muscle (F) and empties into the median cephalic vein after receiving two slightly distended veins corresponding to a common interosseous artery (not seen in the illustration). The basilic vein (G) is not dilated and a median basilic can not be found. The median cephalic (I) and cephalic veins (M) are much dilated, and this condition extends to about the middle of the forearm.

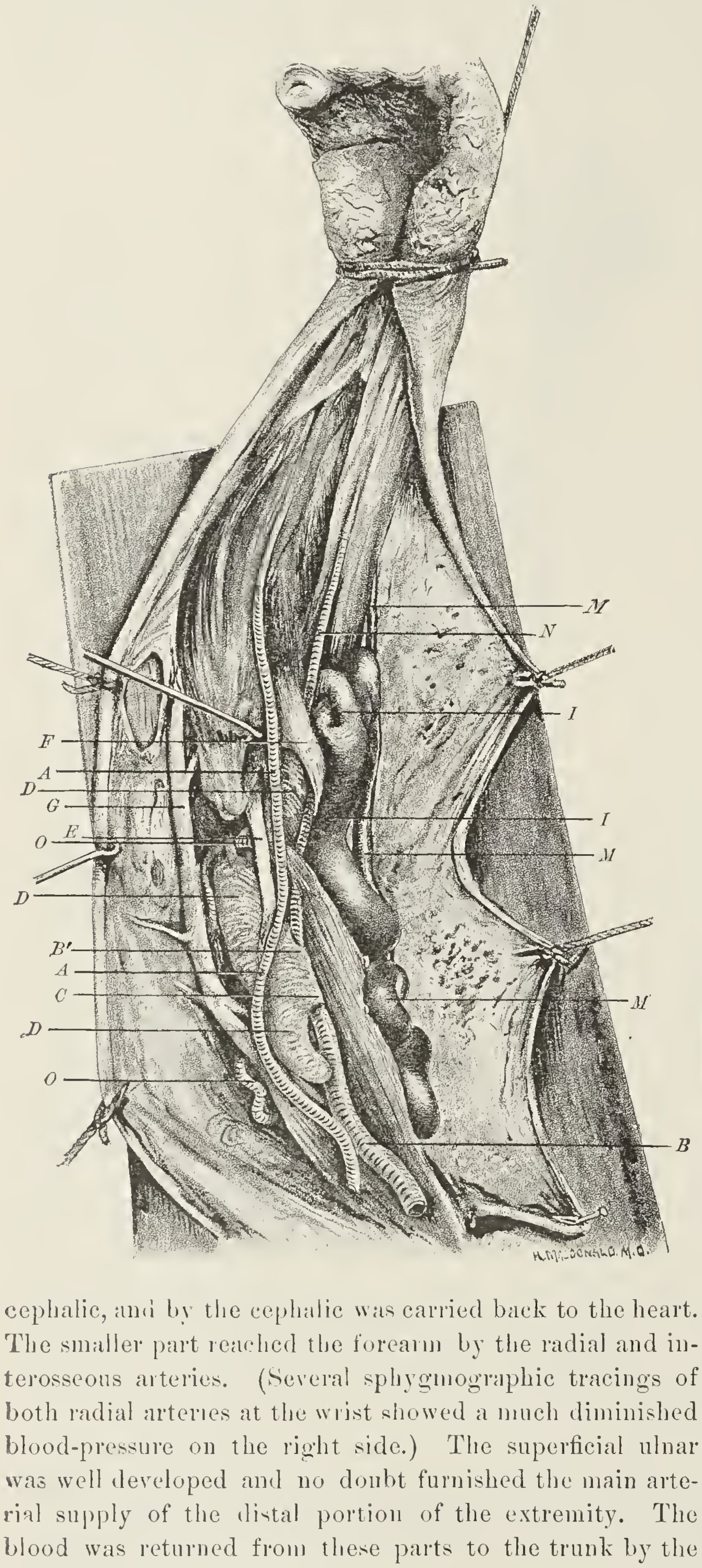


The brachial artery, after its communication with the brachial vein (B′), continues in the bicipital groove, its caliber diminished to at most one half of its original size. Beneath the semilunar fascia it divides into two branches, the radial (N) and a common trunk from which spring the anterior and posterior interosseous. Before this division it gives off the anastomotic artery (O), which runs over the distended brachial vein and upward on the inner side of the humerus, forming an arch with a branch from the superior profunda.*

---

* The nerve is omitted in the drawing in the upper part of the arm, to demonstrate the obliterated end of the vein more clearly.

The circulation in the extremity seems, then, to have been carried on in this way: the greater part of the blood in the brachial artery after its separation from the ulnar was thrown into the brachial vein, thence into the median cephalic, and by the cephalic was carried back to the heart. The smaller part reached the forearm by the radial and interosseous arteries. (Several sphygmographic tracings of both radial arteries at the wrist showed a much diminished blood-pressure on the right side.) The superficial ulnar was well developed and no doubt furnished the main arterial supply of the distal portion of the extremity. The blood was returned from these parts to the trunk by the superficial posterior and the basilic veins. The only explanation I can offer of the non-participation of the basilic system in the general dilatation of veins on the anterior part of the arm is the absence of the median basilic, which vessel, I assume, was injured at the time of the accident. Nor am I able to speak definitely on the central obliteration of the brachial vein. Obliteration has been occasionally found in arterio-venous aneurysm of the arm, but then it has existed generally in a peripheral direction from the point of communication. In Bramann's* table only one case of obliteration of the central portion of the brachial vein is mentioned, and, as an explanation, traumatism and compression, as a therapeutical measure or from an extravasation at the time of the injury, are suggested.



At the time the possibility of surgical interference in this case was differently commented upon by various members of the Surgical Society. Had the exact anatomical relations been known, we must now confess, the operation of ligature of the brachial artery above and below the communication between vein and artery would have been a simple surgical operation, as the site of the scar corresponded exactly with that of the communication. However, it is but fair to say that I only recognized the condition of affairs exactly when I had dissected out all the parts involved. With pulsation present this might have proved an easier task in the living.

ECZEMA SEBORRHOICUM.

By GEORGE T. ELLIOT, M. D.,
ATTENDING DERMATOLOGIST TO DEMILT DISPENSARY AND
THE NEW YORK INFANT ASYLUM;
ASSISTANT PHYSICIAN, NEW YORK SKIN AND CANCER HOSPITAL, ETC.

It is now several years since Dr. Unna, of Hamburg, first called attention to the cutaneous process to which he gave the name of eczema seborrhoicum, and which he delineated in his first paper read at the International Medical Congress in 1887, and also in subsequent publications. The statements made by him at that time and the views he expressed can not be said to have been received with great favor. They were too new, they demanded a too radical change of opinion in regard to several morbid phenomena on the skin, which had come to be accepted without further question as well-defined entities, distinct and separate from each other, and the opinions advanced by Unna were regarded as rather visionary and lacking of firm foundation. They were also objected to on the score of inappropriateness of the name suggested for the process, the existence of such a well-defined group of cases was doubted, the propriety of making such a subdivision of the family eczema was questioned, and it was furthermore maintained that Dr. Unna had brought forward nothing new, but had only collected together under one name well-known and recognized cutaneous manifestations, always considered and regarded as exemplifying distinct diseases. Whatever right there may have been in these objections, nevertheless, seborrhoic eczema, as he defined it, has obtained recognition, and, with perhaps certain reservations, quite general acceptation, among dermatologists. Notably does this appear to be the case in France. In Germany and in England it has ceased to be a purely controversial subject, but in America, however, it would seem to have received the least attention.

---

* I desire to express my great indebtedness to Dr. H. Macdonald for his excellent illustrations of this interesting case, without which I fear my description of it would have proved very incomplete. They were taken from the original specimen and from photographs furnished me through the kindness of Dr. F. Sondern, house surgeon of the German Hospital.

* Langenbeck's *Archiv*, vol. xxxiii, p. 26.

The comparatively large number of cases which have been under my immediate care from October 1, 1887, to October 1, 1889, has allowed me to carefully study eczema seborrhoicum, and the results of my observations from the clinical point of view are given here. The material made use of has been obtained from my private practice, my clinic at the Demilt Dispensary, and from among the patients applying for treatment at the Outdoor Department of the New York Skin and Cancer Hospital (Dr. Bulkley's service). I do not wish to give the impression, however, that Dr. Bulkley should be held responsible for the diagnosis of seborrhoic eczema made in the cases occurring in his service, or that he holds the same views as may be expressed in the course of this article. I alone am responsible for both; but I take this opportunity of thanking him for leaving the material entirely at my disposal. The number of cases obtained from these several sources is 232. During the same length of time a total of 815 cases of eczema were treated by me, so that it is evident that that form of the disease termed seborrhoic constitutes a decided proportion of the whole. Of these 232 cases, 149 were in females and 83 in males. This disproportion between the sexes is interesting, but in the main is probably due to the fact that women are much more prone to consult about some cutaneous trouble or blemish than men are, a circumstance also observed in regard to others of the ordinary forms of disease upon the skin. Strictly speaking, it could not be observed that disturbances of the general system played any part in the production of seborrhoic eczema. The large majority of patients enjoyed good or perfect functional health, and only in a small proportion was there any change from the normal. In these latter the deviations from health, moreover, were of the same nature as those which are met with in connection with any cutaneous disease, from pediculi corporis to mycosis fungoides, and also when the skin is absolutely healthy—that is, constipation or some gastric or intestinal or menstrual disturbance, etc., existed. Rectification of these functional changes was primarily and intentionally undertaken in many cases previous to the use of local remedies, but, though normal health was obtained, yet no alteration in the character, intensity, or objective appearances of the eczema could be observed. The contrary was, however, the case, for the skin affection always yielded rapidly and readily to local applications, no matter whether internal medication was resorted to or not. The menstrual epoch likewise did not seem to exert any influence upon the process, nor did any intercurrent affection of the general system.

No age seemed to be exempt from seborrhoic eczema. It was met with in infants as well as in those who had reached extreme old age. The ages of my patients varied from a few weeks to eighty-five years, but the largest number of cases occurred in the second and third decades of life—ten to thirty. Between these ages 123 cases were met with, and only 109 in all the other decades. Of the 123 patients, however, 85 were between twenty and thirty. The importance of these figures is that they would appear to establish the fact that the process is not one dependent upon or connected with the age of development and the change of the being from childhood to manhood and womanhood, but that its most frequent occurrence is after that period has been passed.

In analyzing the cases of seborrhoic eczema which have been under my care, it was strikingly evident that in its primary development, as well as in its extension and course, the disease had a predilection for certain regions of the body. The first rank was held by the hairy scalp, which at the time of consultation was found in every case to be implicated to some degree or extent. In the majority of instances the disease was situated upon the face, neck, and ears—that is, above the clavicles. Below this boundary the lesions were met with neither with such frequency nor with such regularity; still they were, when present, oftener situated over the chest than on other portions, the back coming next and then the extremities. The process was also met with on the vermilion border of the lips, on the palms and soles, hands and feet—in fact, on every portion of the body. The favored localization of the disease as regards the head strongly suggested the accuracy of Unna's contention that it began almost invariably upon the scalp, only later extending to the face or some other portion of the body, a statement which I am able to corroborate in full, both from my own observation and from the testimony of my patients. All of these, except two, in whom the process began in the axillæ and only subsequently attacked the scalp, stated and testified to the presence of a diseased condition of the hairy scalp prior to the development of lesions upon any other portion of the body.

The evidences of disease most frequently complained of were those which are described under the name of pityriasis capitis or alopecia pityrodes, or the so-called seborrhœa sicca—that is, the symptoms consisted in the existence of more or less abundant branny scales and a certain amount of itching and tingling, especially when the patient became heated by exercise, or from being in a warm room, or from some other cause; or, in addition to these, there was a falling out and thinning of the hair—an alopecia pityrodes—or, when the production of horny scales was very marked and there was also a slight admixture of fat, they became more adherent and formed a uniform coating over a greater or lesser portion of the vertex especially, of a dirty-white or grayish color, which encircled the hair with sheath-like prolongations—the so-called seborrhœa sicca. Less often the symptoms which were present on the scalp consisted of an accumulation of soft yellow or brownish greasy masses, which could be easily removed, or of a fatty, oily coating, which could be scraped off without difficulty, or, in addition, the hair and the skin were glistening from a seborrhœa oleosa, the latter being reddened in patches and showing a few crusts here and there. In babies the scalp symptoms most often consisted of soft, crumbly, fatty, yellowish crusts over the vertex especially, but in young children they agreed more closely with those seen in adults.

The conditions described having developed on the scalp, they existed for a variable length of time before any further changes occurred or new symptoms made their appearance. The progression and advance of the process would be seen either in the increase in severity of the pityriasis, the subjective sensations, and of the alopecia, or in the additional formation of reddened patches of various sizes, or of small or large crusting or weeping lesions, to which notice would be directed by a sore feeling when the hair was combed, or their existence would be betrayed by the matting together of the hair situated on them. The time required for the advance of the disease from its primary stages to higher degrees of intensity varied greatly upon the scalp. Only a few weeks might be necessary, or the change might not occur until many years after, absolute or partial baldness having occurred, or, on the other hand, no alopecia having developed. In the majority of my cases one to two years was found to be the average, but some were treated in whom the process had existed only a month or two, and again as much as ten to twelve and more years in its simplest form—pityriasis—and without any marked increase in severity.

Before, however, the scalp symptoms had progressed to the extent of attracting the patient's attention and of causing him anxiety, or perhaps it might be at the same time or not until after they had become severe, the appearance of lesions of some kind might be observed upon the face or on some other portion of the body; it might be limited to symptoms identical with those on the scalp—pityriasis, etc.—or they might be of such higher grades as will be mentioned presently. This extension of the disease varied in rapidity and extent within wide limits. It might occur slowly and be limited to the outcropping of only a few lesions on some portion of the body, these gradually undergoing spontaneous involution and being replaced by new ones. Such a course often persisted for years, the disease never reaching a high degree of intensity, but it would be at times almost entirely absent from the surface of the skin and then again clearly and distinctly marked. Patients in whom the process ran this course often complained only of the scalp symptoms and had not noticed the few lesions revealed by the examination of the general cutaneous surface; or, on the other hand, it must be stated that not infrequently the patient would consult in regard to some more or less large and diffuse patches of pityriasis on the face or body or in the beard which had attracted his attention, the changes on the scalp not being mentioned, or not having been noticed, or being considered as natural and unavoidable conditions. Rapid dissemination and advance of the process from the scalp to the rest of the body was also frequently seen. This might occur after the disease had remained more or less localized for a long period of time, or had run a chronic course as above described, or it might be from the very first that its course was acute, rapid and widely-extended generalization taking place in a few weeks, or, in fact, the entire surface of the body becoming attacked by the disease.

No particular regularity was observed in the extension of the eczema seborrhoicum from the scalp to other parts of the body. That is, a steady and uniform course was not invariably followed, but the lesions developed on the forehead, cheeks, or alæ nasi, or these portions remained entirely free and the affection appeared over the sternum or in the interscapular space, or in the axilla or inguino-scrotal spaces, or on some other portion of the body. Not infrequently, preceding the development of the eczematous lesions, a marked seborrhœa oleosa existed and persisted on the face or over the sternum, and it was also noticed that in many patients the sweat secretion was most abundant and very greasy to the touch.

The lesions characterizing seborrhoic eczema when the disease had progressed beyond those primary stages already mentioned and represented by the pityriasis capitis, faciei, etc., were in their major clinical features substantially the same. Allowances must naturally be made for differences in size, configuration, and those other features—color, amount of scaling and crusting, etc.—which are dependent upon the grade of intensity of the process. The lesions were of all sizes. They were as large as a pea, or a twenty-five-cent piece, or a silver dollar, or larger. These underwent peripheral growth or oftentimes remained stationary. In the former case, confluence of a number frequently occurred, and in this way the entire forehead or an arm or leg, or some other portion of the body, would come to be occupied by a diffuse patch of the disease. In the latter, after a certain time, the lesions would undergo spontaneous involution.

In shape, the primary lesions were round or oval, and in their further development remained of that form, or, the central portion undergoing involution, they became circinate; the ring-shaped lesion then inclosing a yellowish greasy center, or a portion of the periphery of one of the latter disappearing, a crescentic lesion or one representing a more or less large segment of a circle resulted. By the fusion of several of these latter, moreover, a gyrate or wreath-like band would be formed. The oval and round lesions were met with most frequently on the scalp, face, trunk, and extremities, the circinate and gyrate on the chest and back, but the wreath-like arrangement occurred usually along the margin of the hair at the forehead and at the nape of the neck. None of these forms were, however, limited exclusively to these regions. In several instances, on the chest, on the back, and in the inguinal regions, it was observed how a number of lesions originally circinate, then representing some segment of a circle, had become in their peripheral growth and march fused and joined together so as to form a polycyclic border inclosing a yellowish and greasy scaly surface. The outlines of the individual lesions and patches were for the most part regular and uniform, but also irregular and at times they bore a marked resemblance to that of a drop of water splashed on the skin. The lesions were also most usually sharply defined and limited toward the healthy skin. Not infrequently, however, their delimitation was a little diffuse and gradual, but still never in such a degree as in an eczema produced upon the skin from some external or internal cause other than the one active in the seborrhoic form. The patches were never observed to break up at their peripheries into separate discrete papules or vesicles and gradually to fade out in this manner into the surrounding tissue, nor could the existence of any of them ever be traced to the aggregation together of such primary lesions. In character the manifestations most frequently met with were macular—that is, scarcely or not at all elevated above the level of the skin. Prominent and elevated discs or papules were, however, not uncommonly seen, and also more or less large, somewhat prominent patches, and all of the lesions which ran a serpiginous course showed some degree of elevation. It was also only in the lesions last named—papules, discs, etc.—that some degree of thickening of the cutis was observed. In the cases which never advanced beyond the macular stage such increase in the thickness of the corium was not noticed, no matter how long the process had existed. The explanation of this is probably to be found in the superficial seat of the inflammatory changes in the cutis, and not a small part of this fact must, besides, be ascribed to the comparative short life of the individual lesions of this type, for their evolution and involution were constantly occurring, and the existence of any particular one was not of very long duration.

Marked variations in the color of the lesions of seborrhoic eczema were observed. The pityriasic forms were pale or slightly tinged with yellow; where the hypersecretion of fatty matter was a marked feature, a decided or a dirty yellow, or even a brownish and a decided brown color, was met with. The macular lesions were most often of a pale red, but sometimes yellow, but a deeper red was often seen in the axillæ or on the extremities. The papular lesions, the discs, and those in which thickening of the cutis existed were of a bright or dark yellow-red color, according to their location. In the cases more acute in development a bright red was the rule, but darker shades were seen in those more chronic, and on the legs even purplish lesions were observed, especially when there was a coexistent varicose condition of the veins.

The amount of desquamation varied according to the degree of inflammation, and its character in proportion to the extent of association of the fat-producing glands with the process. The scales were epidermic in character, white, branny, and easily detachable, or they were more coherent, dirty-white, or grayish, or crusts were present, varying in thickness, and either yellowish or of all shades to a brown. These crusts were always soft and greasy, and easily rubbed off, leaving then exposed the hyperæmic base upon which they had rested, and sometimes the dilated follicular openings—on the nose especially—were also observed filled with soft greasy plugs, or these latter came off with the crust and could be seen as prolongations from its under surface.

A weeping surface *in toto* was not frequently met with, but more often the periphery of a lesion showed this feature, or, in addition, moisture exuded from a few points here and there on a patch. When weeping occurred, the crusts formed differed from those arising in the course of eczemas of other nature in the fact that they were not hard, stiff, and quite adherent, but they were rather soft and fatty when rubbed between the fingers, like crusts softened by oil or an ointment. Besides, they could be easily rubbed off from their moist and weeping base.

A very striking feature observed by me in the study of this form of cutaneous disease was the slight degree, and even oftentimes the entire absence, of any subjective phenomena. So much was this the case that extensive patches, for instance on the back, were often seen, the existence of which had not been suspected by the patient, owing to there not having been any sensation of itching, or anything directing his attention to it. The majority of my patients complained of only slight itching and burning, especially when heated, and only occasionally was a marked degree of pruritus present, and then usually in the higher and severer degrees of the disease. The cases which were acute in development, or underwent rapid dissemination and generalization, described their subjective symptoms as a tingling and burning sensation, with at times slightly painful ones.

The clinical description of seborrhoic eczema which has been given will delineate, I trust, sufficiently well the history, course, and symptomatology of the process, so that its recognition will present no difficulty in the large majority of instances met with, or rather when the disease exists pure and uncomplicated. When the latter is not the case, however, then oftentimes it is not an easy matter to decide whether one is dealing with a single, or with more than one, or with a combination of diseases. It is not meant that the lesions of seborrhoic eczema simulate those of other affections, but that the process is frequently found not only existing upon a patient at the same time with some other disease of the skin, but also ingrafted upon the lesions of the latter—in other words, a mixed infection had taken place and the result had been the formation of a mixed lesion, one partaking of the characters of both diseases.

When simple coexistence of seborrhoic eczema and some other disease was noted, the lesions of both existed alongside of each other or occupied separate portions of the body. Under these circumstances it was seen upon patients suffering from an acne or a seborrhœa oleosa, and, in fact, from many other cutaneous diseases, and then its recognition was perfectly easy. But when a mixed infection had produced a mixed lesion, great difficulty was oftentimes experienced in determining to what process the manifestations belonged—whether they were the expression of one single affection, or some peculiar variation in type from a more ordinary form of cutaneous disease. This uncertainty was felt frequently in regard to psoriasis-like eruptions, and there were cases seen by me which to this day I have been unable to class satisfactorily, either as an atypical psoriasis, or as a papular seborrhoic eczema, or as a mixture of both, owing to the fact that they presented objective symptoms distinctly referable to both diseases, but yet were wanting in certain others which are considered as typical characteristics of each. These forms of eruption, however, are only mentioned as examples of the difficulty at times experienced in the diagnosis of seborrhoic eczema, but the details concerning them are not entered upon here, as further and great experience is necessary before they can be satisfactorily described. The recognition of a seborrhoic eczema ingrafted upon or in combination with some other well known disease of the skin is frequently, however, a matter of ease, especially if the examination of the patient is undertaken with care and every portion of the body is subjected to close scrutiny. As examples of such cases, there may be mentioned rosacea of the nose and face, which has been frequently found by me complicated with a superposed seborrhoic eczema, and often also to owe its existence in great part, if not entirely, to the presence of the latter disease. Those forms of eruption termed eczematous acne, eczematous rosacea, have also proved to be, when carefully examined, only combinations of acne and rosacea with seborrhoic eczema, or in reality pure cases of the latter process. The same can be said of the examples of acne which are accompanied by an itching and a tingling. These have been observed by me to be usually only instances of the papular form of the eczematous process. A very noteworthy combination is that of syphilis and seborrhoic eczema. Unna called attention to this fact and pointed out that this condition of mixed infection was met with in those crusting serpiginous syphilides, occurring on the palms and on other surfaces, which develop in the late secondary stage of syphilis, also in the marked crusting, non-ulcerated lesions situated on the face and scalp and in the majority of the cases of corona Veneris. The facts adduced by him have been observed by me, but only in a small number of cases. More frequently the coexistence of the two diseases was noted on the same patient, but on different or on contiguous portions of the body—that is, entirely independent of each other. Still the possibility of a mixed infection occurring or existing in a given case should be kept in view. Before we turn to the consideration of some of the arguments and facts in favor and demonstrative of the interrelationship of the several parts which have been mentioned as phases or stages of the disease—seborrhoic eczema—I would briefly summarize its clinical features as they have been met by me in the cases which have come under my observation, giving also categorically the major characteristics of the process.

1. Seborrhoic eczema develops primarily and with few exceptions upon the scalp, and, after remaining localized upon that surface for a longer or shorter period of time, it progresses and undergoes extension to other portions of the body.

2. It does not follow any particular regularity in its extension, but yet preserves that striking characteristic of advancing from above downward. It shows, however, a decided preference for certain regions—the face, sternal region, interscapular space, etc.

3. The primary stages of the disease are represented by the clinical manifestations to which the names pityriasis, seborrhœa sicca capitis, etc., are given, which, on the scalp, usually lead to partial or complete baldness. This latter may occur before extension of the disease has taken place, but more often after it.

4. The lesions of the seborrhoic eczema on other surfaces than the scalp may be identical with those on that region, or be represented by scaly, pale macules, or reddened papules, or nummular-like lesions, or more or less large patches. The former, undergoing peripheral growth, enlarge *in toto*, or, in the case of the discs, by involution of their central portion, become transformed into circinate lesions, with elevated red borders, inclosing a sunken-in yellow space, or, by involution of a portion of the peripheries of the latter, there results a crescentic lesion, or one representing some segment of a circle. These latter, in their advance and progress over the surface, may join together and form a gyrate or wreath-like lesion, or one constituted by a polycyclic border surrounding a yellow center.

5. The slight grades of the disease are dry and pityriasic in character, but, as the intensity of the process increases, the amount of scaling increases greatly, or points of weeping, or a moist exudation from an eroded periphery, or a copious exudation from the entire surface of a lesion, is seen to occur. In the pityriasic lesions the presence of an abnormal amount of fat is clinically not noticeable, but this becomes more apparent in proportion to the severity of the disease, and may even constitute a marked feature, the affected portions of the skin being covered with either small, fatty, soft scales, or large crusts of the same character.

6. The slighter forms are not always sharply delimited from the healthy skin, but occur more diffusely. The other lesions—macules, papules, discs, etc.—are, however, sharply defined, and terminate quite abruptly.

7. Thickening of the skin or elevation of the lesions is seen only in the higher grades of the disease, but is not apparent in the primary or light stages.

8. The shape of the lesions—papules, discs, etc.—is round or oval, regular or irregular, circinate, crescentic, etc. Their color is a pale to a bright red, a yellowish, yellow-brown, and even brown—oftener yellow-red.

9. As a rule, the subjective symptoms are limited to slight itching, especially when the patient is heated; but in the severer grades the pruritus may become intense and excessively annoying. At times a burning and tingling sensation is complained of.

The pathology of seborrhoic eczema and the pathological changes which take place in the tissues in its various stages are of major importance and require particular description. Inasmuch as this paper is intended, however, to present only the clinical aspects of the disease, the microscopical portion will be omitted. This has, furthermore, been judged advisable for the reason that its thorough consideration would require a review also of those conditions—pityriasis capitis and seborrhœa sicca—from every side, a work impossible to undertake at present. Their anatomo-pathology, as well as that of the other forms of seborrhoic eczema, will be treated of at another time, and I will only state here that the result of the studies made by me of the various phases of the disease have led me to the conclusion that the cutaneous manifestations—pityriasis capitis, etc.—are only stages and degrees, and constitute an inherent portion of the same process. This statement, though apparently somewhat radical, is, however, only in unison with the observations to be made every day on cases of seborrhoic eczema, and is susceptible of clinical demonstration. In other words, it can be demonstrated by clinical facts and evidence alone that such close connection and direct relationship exists between these conditions—pityriasis capitis, etc.—and those others—macular, papular, circinate, etc., simply scaly, or crusting, or weeping lesions, which are met with on hairy and non-hairy surfaces, and which are characteristic representatives of the process eczema seborrhoicum—that it is impossible to separate the one from the other. Certainly the most difficult portion of the question, this demonstration of the clinical relationship existing between these primary and slight grades and those more advanced and severe ones, it is rendered doubly so by the fact that our text-books inculcate the opinions that the phases of cutaneous disease termed pityriasis capitis and seborrhœa sicca represent an entity, or are distinct processes—that is, according to some, each is distinct in nature and separate from the other, while to others both merge more or less into each other or are identical. In consequence, our teaching compels us to approach the subject with such preformed convictions and prejudicial inclinations that its study from any new standpoint of view is materially influenced, and it is only a steady accumulation of facts and of evidence that finally forces us to entertain a new conception of these processes hitherto regarded as well and thoroughly known. This same difficulty was experienced by myself, and it was only after careful clinical study of the cases presenting themselves almost daily that I could divest myself of the opinions previously entertained, and could conclude satisfactorily that the clinical testimony and evidence warranted the belief that those objective lesions on the skin—pityriasis capitis and seborrhœa sicca—were not only directly related to, but were also parts and stages of, that same process, eczema seborrhoicum.

In support of this statement several arguments can be advanced, foremost among which stands the observation that invariably—there are a few exceptions, but even in these the scalp symptoms developed very rapidly—the appearance of lesions representing higher degrees of the process, either on hairy or on non-hairy surfaces, was preceded for a shorter or longer period of time by those symptoms on the scalp which are described as characteristic of a pityriasis capitis or of a seborrhœa sicca. In addition, the presence of these in some degree was noted without fail on every one who sought relief from manifestations of seborrhoic eczema situated on surfaces more exposed to their own or to the sight of others.

These clinical observations repeating themselves so continually and with such regularity, the association of the symptoms characterizing the one with those belonging to the other can not be regarded as pure accidents or as simple accidental coincidences. For how can we consider as accidents alone the existence of precisely similar cutaneous changes preceding the development of other and more marked lesions or associated with such in (to refer only to my cases) 232 successive examples of a skin disease, all of which, in addition, though not identical, it is true, but presenting variations in acuteness or chronicity or intensity or extent, yet ran similar courses, furnished similar life histories, offered similar objective and subjective symptoms to the observer, and were amenable in every instance to the same forms of treatment? To conceive of such a similarity in so many of the major and determining factors, pre-eminent and necessary for establishing the existence as well as the identity of several or more cases of a disease of the skin as well as of other organs, to conceive them as purely accidental associations or coincidences repeating themselves in patient after patient, would certainly be doing what has never been done, and would be contrary to all the laws and requirements of clinical nosology. If the association of those morbid conditions on the scalp with other lesions on the face or other surfaces, if their preceding the appearance of the latter was only occasionally noticed, then their importance as factors in the entire process, their connection with it, could be questioned, and with right. But the contrary has proved to be the case in my experience, and in this I am in strict agreement with Dr. Unna, and therefore it may justly be concluded that this continually repeated association testifies in the strongest possible manner to a direct relationship existing between these several forms of morbid phenomena which are met with in the course of the disease. Further adducible facts in favor of the conclusion just stated are found in the appearance in the beard, on the face, or on other portions of the body, of objective changes precisely similar in character to an already existing pityriasis or seborrhœa sicca capitis. And yet stronger proof is obtained from the observation of cases of the disease over a more or less long period of time. Under these circumstances it was and can be repeatedly seen that on the scalp as well as on other surfaces there would occur transitions and transformations from one form of lesion to another. A diffuse, pale pityriasic patch would become a reddened, scaly one *in toto*, or on portions of it there would arise red, slightly crusting, or moist lesions, and these would progress farther into a marked crusting or weeping lesion. Patients, for instance, who at first had had only a simple pityriasis capitis have frequently returned to me after absence for some months or after neglect of their treatment with their pityriasis still present on portions of the scalp. They had, however, developed in addition an alopecia, had become partially bald, and on the surface denuded of hair there were reddened, round, macular, or somewhat elevated discs, or circinate lesions, scaly, crusting, or weeping; besides, a pityriasis of the beard would be noted and marked crusting or scaly, macular, or other lesions over the sternum or on some other portion of the body. This transformation in the grade of a case, in the degree of the disease, was frequently observed, and it was also seen, in existing lesions on a patient, how a diffuse pityriasic patch would become a greasy, crusting one, or a disc become circinate, then, by involution of a portion, crescentic or representing some other segment of a circle, and also how a polycyclic patch would be formed by the union of several or more of these latter, or a gyrate or wreath-like lesion would result. Likewise a patch at first dry and scaly would become crusting, or its periphery would be eroded, or it would progress to a copiously weeping surface.

All of these changes, transitions, and transformations were observed and followed, the progression from a simple to a complex lesion, the advance from a slight to a severe and high grade of cutaneous disease were noted over and over again in cases presenting the necessary characteristics in development, course, life history, etc., demanded by and belonging to the disease described by Dr. Unna under the name of seborrhoic eczema. And this being the case, can they be disregarded also? Can they be said to be accidental associations or coincidences and as presenting indications possessing not a particle of value? Certainly not, for if we do this, then we overthrow the basis of clinical observation and the factors which allow us to connect together the various parts of any given process.

From these facts, therefore: the invariable presence of one of those conditions—pityriasis capitis and seborrhœa sicca on the scalp—preceding the appearance of any other lesions on that or on another portion of the body, their progression and transformation into morbid manifestations of a higher grade represented by the reddened, scaly, fatty, crusting, or weeping lesions; the development of precisely similar manifestations on other surfaces and their advance likewise to the higher grades; the conclusion that the pityriasis capitis, etc., are inherent portions of the one disease and are slight grades only of the process which, in its more advanced stages, are represented by those macular and other lesions, entirely similar, moreover, to those evolved from the slight grades of the disease—would seem to be perfectly logical and in accordance with the requirements of clinical nosology.

But it may be objected that those manifestations which are dry and show no evidence of fatty supersecretion ought not to be regarded as part and parcel of a process, one of whose special characteristics, it is alleged, is the presence of fat in abnormal quantities. Many instances are certainly seen in which the fatty supersecretion is objectively absent, but, nevertheless, these same cases agree in every particular of their development, course, general characteristics, etc., with those others in which the fatty symptom is an early and a marked feature. The great difficulty experienced in considering the dry, non-fatty lesions as belonging in the same category, as being parts of the same disease as the fatty ones, is undoubtedly due in great part to the name eczema seborrhoicum, one which would seem to postulate implication from the first of the fat-producing glands. It is an unfortunate name in that respect. Unna has always expressed his readiness to accept any other one suggested which would better represent the process; still, nowhere in any of the articles published by him in regard to the disease does he state or indicate that the glands of the skin are primarily attacked by the pathogenic cause, that seborrhoic eczema is primarily a glandular disease. On the contrary, he has always asserted that it was an eczema, an inflammation, a cutaneous catarrh; therefore one situated in the cutis vera primarily; and when the glands become implicated, it is only secondarily and in proportion as the parasitic agent has progressed to and into them. The presence of the fatty element in abnormal quantities depending thus upon the implication of the fat-producing glands and their being stimulated into hyperactivity, or due to the result of a pre-existing seborrhœa oleosa, the absence of this symptom from certain stages of the disease can be easily understood—that is, it will not be found in those slight primary grades of the process—pityriasis, etc.—for in these the cutaneous glands have not yet come to participate, have not yet been attacked by the disease, which is still limited to the superficial portion of the derma, or, on the other hand, the pouring out of thin secretions on the surface may be due to mechanical causes—blocking up of their ducts. There is another factor also which must be considered in this connection, and that is the site of the lesions, whether rich or poor in fat-producing glands. In the former case their participation in the process ought to be earlier and more naturally expected than in the latter, and the degree of the fatty secretion should also be greater and more regularly met with. This is exactly what is observed in the clinical study of seborrhoic eczema, the lesions showing most often and in the greatest degree these fatty characteristics being those situated on the scalp, the nose and its immediate neighborhood, the sternal region and the interscapular space—surfaces particularly rich in fat glands—while the opposite condition is usually the rule on the abdomen and extremities, on the neck, and the lower back—surfaces comparatively poorly supplied with these glands. It is not meant, however, that because a lesion is situated on one or the other of these surfaces it must, without doubt, be such as to bear out the statement made. A pityriasic macule is met with on the face, sternum, etc., and a greasy, crusting lesion on the neck or extremities, but most frequently they are found in the situations named.

When we turn now to the clinical manifestations of seborrhoic eczema, several facts are observed which agree perfectly with what has been said. In the pityriasis on the scalp, in the condition termed seborrhœa sicca—light grades of the disease—there is a deficiency in the amount of fat secreted, or, more properly speaking, the absence of fat is objectively noticeable. But yet if these conditions are watched and studied, it will be seen that in proportion as the basic process—the eczema seborrhoicum—progresses to a higher grade of intensity, becomes more marked in degree, so does the absence of fat give place to a hypersecretion of fat. In this manner a dry pityriasis capitis has been seen by me to become transformed *in toto* or in portions into a reddened surface, covered over with greasy, very fatty crusts, the hair being oily and glistening. In addition, on other surfaces than the scalp, the change of a dry, pale pityriasic lesion into one red and covered with greasy scales, or of a squamous macule or disc into lesions on which were situated moderately or quite thick fatty crusts, was seen not occasionally, not as a rare occurrence, but regularly with the advance of the disease from a low to a high grade of intensity. And since in these cases, which are at first not fatty, we find the same mode of development, course, life history, etc., as in those markedly and from the first showing that symptom; since we also observe that, as the severity of the process increases, the lesions approach in their character nearer and nearer to those of a fatty type—what argument can be advanced in opposition to the right of these dry lesions being considered as manifestations of the same process to which those others belong which are more or less fatty in character objectively? There does not seem to me to be any, to judge by the observations made clinically upon the abundant material which has been at my disposal, and, in consequence, I would esteem their right to be regarded as parts and phases of seborrhoic eczema as unquestionable. In my opinion, these dry lesions, or, in other words, those simply squamous ones, whether represented by the pityriasis capitis, etc., the dry macules, etc., in which the evidences of fatty supersecretion are absent, are examples of the slighter degree of seborrhoic eczema—one in which the fat-producing glands have not yet become appreciably or at all affected, and their secretion, therefore, has not been so increased that it can be noted objectively or can overcome a barrier offered to its outlet.

There are several important questions which require attention and consideration in connection with seborrhoic eczema. These are the source of the fatty hypersecretion seen in the more advanced stages of the process, the nature of the dicase, whether it is an eczematous one or not, its differential diagnosis from other forms of cutaneous catarrh and from other diseases of the skin. They will, however, be considered at another time, and are therefore omitted in this paper.

The recognition and the diagnosis of seborrhoic eczema (Unna) should not offer any difficulty if proper attention is paid to its characterizing and determining symptoms—that is, if in any given case there is an agreement in the inception, mode of development and extension, the course and life history, and the objective symptoms with those which have been stated to be essential features of the disease. Careful examination of a patient for the signs of the process, especially on the favorite regions for their occurrence, and proper valuation of the symptoms met with, will allow its recognition to be made with ease, and the removal of distressing conditions, which have resisted and rebelled against manifold treatment, will be seen to proceed readily and rapidly under the use of remedies appropriate and indicated by the nature of the process. The result of my study and observation of the disease delineated by Dr. Unna under the name of eczema seborrhoicum has led me to accept fully its individuality and its existence as a special form of cutaneous catarrh, the distinct position which it holds in relation to other forms of eczema being shown by the special manner of development, progression, and extension of its clinical symptoms, as well as by the characteristics of these latter; and whether it be called seborrhoic eczema or by any other name, it still will exist as a special type of disease of the skin.

I am glad that my experience has enabled me also to corroborate the statements made by my friend Dr. Unna both in regard to the relative frequency of his seborrhoic eczema when compared with other forms of eczema, and also to bear witness to the accuracy with which he has described its clinical symptomatology. Enormous credit is due him for having brought together so skillfully the *disjecta membra* of the process, demonstrated the interdependence and relationship of its various parts, and established its title to be regarded as a distinct entity. The value of his work from a scientific as well as from the practical side is beyond question, and it is to be hoped that this first attack on the conglomerate and confused family of disease—eczema—will be followed in time by others, until its various constituent members, types, and forms will become easy of recognition, separate from each other, and each occupying the place it is entitled to and no more.

The following cases will serve to exemplify the clinical features of the disease as met with in certain ones of its forms:

Case I (private practice).—Male, aged thirty-eight, consulted me over two years ago for a marked pityriasis capitis and a beginning alopecia. The former, situated over the vertex, had begun six years previously, but had increased greatly in severity during the last twelve months, the alopecia, however, developing only within a few months. The patient was given treatment, but, leaving the city very shortly after and being absent in Europe, he was not seen again until September, 1889. The disease had made steady progress owing to his neglect. He was partially bald. Over the vertex, instead of the former simple pityriasic condition, the skin was yellow and greasy, and a soft, fatty mass could be scraped off with the nail. Here and there were a number of red, sharply defined, round and oval patches the size of a ten-cent piece or a silver quarter, which were covered with yellow, very fatty crusts. Within the last two months the lesions on the face had developed. They consisted of circumscribed, pale red, dry, scaly patches on the cheeks, of yellow fatty crusts on the alæ nasi and in the nasolabial furrows, both of which were reddened and of a diffuse and marked pityriasis barbæ. Subjectively, there was slight itching of the nose and in the beard when the patient became heated. General health perfect in every way.

Case II (private practice).—Male, aged fifty, was seen September, 1889. The symptoms termed pityriasis capitis began twelve years ago, and alopecia was first noticed seven years later. Two years afterward he observed lesions on the forehead, cheeks, and nose, and about a year ago the disease appeared on the chest and back. The alopecia has resulted in complete baldness of the vertex, which, at the time of consultation, was only the seat of an excessive oily secretion—a seborrhœa oleosa. Along the margin of the bald surface on the parietal and temporal regions there were a number of lesions covered with greasy, thick crusts reposing on a red, moist base. They were regular in shape, round, and the crusts could be easily rubbed off. On the face there were dry, slightly red, squamous patches the size of a finger nail, and a diffuse pityriasis of the beard. On the sternum a patch, three inches in diameter, yellow, greasy, and scaly, was bounded by an elevated red polycyclic border. A red scaly lesion was also seen in the interscapular space, which was oval in shape, with beginning involution in its central portion. It was the size of a silver dollar. Itching occasional, but not severe. Anæmia and enlarged prostate. Chronic dyspepsia.

Case III (private practice).—Male, aged twenty-eight, consulted me in June, 1889. Pityriasis capitis had existed ten years, but had not yet led to alopecia. Within the last two years severe itching had developed, and a few moist patches had been noticed over the vertex. On examination, the scalp was found to be diffusely covered with quite thick masses of epidermis scales, dry, dirty white in color, prolonged in the form of horny sheaths for some little distance upon the hairs. On the parietal, temporal, and occipital regions the scales were not so plentiful and the skin was seen to be somewhat reddened. This hyperæmic condition probably extended over the entire scalp, for anteriorly there was seen upon the forehead along the margin of the hair a wreath-like band a quarter to a third of an inch broad. This band was not elevated appreciably, was yellowish-red, scaly, greasy, and here and there covered with small fatty crusts. The patient, leaving the city, was not seen until September. The symptoms described were still present, and, in addition, there were found on the sternum a number of round disc-like lesions; others crescentic in shape or representing some segment of a circle. They were covered with thick, yellow, fatty crusts, easily rubbed off, and then exposing a red, elevated, moist base. The entire left axilla was also occupied by an irregularly shaped, sharply defined, yellowish-red, not elevated patch, on which were thin, dry, clear, horny flakes. These new lesions did not itch very severely.

The three cases described represent types of seborrhoic eczema which are very commonly met with. In their mode of development and extension they show very distinctly also the features characterizing the disease. Beginning upon the scalp under the form of a pityriasis, it gradually advanced to higher grades, fatty, crusting, or moist lesions appearing upon the scaly surface, characteristic lesions also developing upon various portions of the body after the scalp symptoms had existed for a more or less long period of time. In Cases I and III the advance of the disease was particularly noticeable and striking, owing to the patients not having been seen for some time, and the disease having been allowed to run a natural course, uninfluenced by treatment. Case III was one of the most typical examples of seborrhoic eczema which could well be seen, in every particular presenting the major and determining factors of that disease.

The following case, also a most typical example, ran an acute course, rapid dissemination and generalization taking place:

Case IV (private practice).—Male, aged fifty-eight; was first seen December 30, 1888. He had always enjoyed good health, though for many years he had suffered from more or less constipation. About a year previously a severe pityriasis capitis, accompanied by alopecia, had begun on the scalp, and had led, by November, 1888, to almost complete baldness. At the end of that month he had first noticed the presence of red, weeping, and crusting lesions over the vertex. On December 22d patches had appeared on the face, and a few days later on the neck, chest, and back.

On examination, the process was seen to be diffuse over the scalp, face, ears, and neck. Masses of soft, yellow, greasy crusts covered the vertex, on which there were only a few isolated hairs. The rest of the scalp was red, inflamed-looking, and scaly. The alæ nasi were incrusted with crusts similar to those on the vertex; behind the ears and at the external canthi there was weeping and fissuring. The face and neck were yellowish-red, covered with thin, fatty scales, the face as a whole somewhat swollen. On the sternum and interscapular space there were large, diffuse patches, and discrete, elevated discs and crescentic and circinate lesions of all sizes, some simply scaly, others crusting, others again showing points of erosion and weeping. There was some itching, but more especially a burning and tingling sensation.

The extension of the disease was rapid and steady. By January 12, 1889, the abdomen, the entire back, and the upper and lower extremities in their entirety had become covered with innumerable lesions, papules, macules, discs, circles, and segments of circles of all sizes and in all stages of development. They were crusting over the chest and the back, pityriasic over the rest of the body, but weeping on the fingers. In color they varied from a light to a bright and yellow red, but on the lower extremities they were dusky red. Their outlines were often regular, more often irregular, but sharply defined, not gradually fading out. None of the lesions could be observed as being formed by the aggregation together of papules or vesicles, nor did they break up at their peripheries into such. The patient, even under these conditions, preserved his health perfectly, except that he suffered from his constipation.

It would scarcely be possible to see a case which more typically represented all the phases and forms of seborrhoic eczema than the one just given, remarkable also for the extent of surface affected and the rapidity of its dissemination after full development of the scalp symptoms had been reached. The following example is also an interesting one, as it represented again the severe character which the process can assume:

Case V (Demilt Dispensary).—Male, aged fifty-one, states that for many years he has had a condition on the scalp such as is termed pityriasis capitis. Subsequent alopecia developed, and has resulted in partial baldness. He first noticed lesions on the hands about eight months ago. After their appearance a steady outcropping of others was observed generally over the body. His general health was good, his functional life normal.

On examination, masses of greasy, yellow, soft crusts were found diffusely covering the vertex; the eyebrows were occupied by red patches, which extended also somewhat upward on the forehead. They were sharply defined, scaly, and greasy-looking. On the dorsum of the nose there was a patch having the same characteristics, only it was covered by crusts. On the chin, cheeks, and neck there were a number of regular, round, and irregular patches, some simply scaly, others bearing thin, greasy crusts. The upper lip, dry in places, moist in others, was covered with masses of soft, fatty crusts. Fissures were seen here and there about the alæ nasi and the naso-labial furrow. The pinnæ and conchæ of the ears were crusted and weeping. Over the sternal and pectoral regions and the back were a number of round and oval lesions of all sizes, covered with thick yellow and brownish fatty crusts. Both the upper and the lower extremities were severely affected; upon them lesions of all shapes, sizes, and configuration were found, either discrete or, where they had become confluent, forming large, diffuse patches. They were of all shades of red, yellow-red, and even brown, depending upon whether they were dry and squamous or fatty, or crusting and weeping.

The hands and feet deserve particular mention. The details observed on one of these will do for all. The hand was considerably swollen and tense, and could not be used. The dorsum was occupied by large patches formed by the confluence of disc-shaped lesions similar to some situated on the wrists. They were elevated, well-defined, dusky-red, and either profusely weeping in portions or covered with soft, yellowish, greasy crusts and scales, which could be easily rubbed off from the moist base. Similar patches occurred around each nail, which were dystrophic, discolored, fissured, and lifted up from their bed by masses of epidermis scales. Between the fingers there was an intertrigo of a severe type, continuous with the affected portion of the palm. On these surfaces patches similar in configuration and general characteristics with those on the dorsum were seen, but the amount of scaling was greater and, the thickness of the horny epidermis not allowing the exudation to escape, had caused in some places a bullous-like lesion to form. There was also a severe hyperidrosis of the palms and soles. The patient complained of the most severe itching.

The following case shows admirably the pityriasic form of seborrhoic eczema.

Case VI (Outdoor Department of the New York Skin and Cancer Hospital).—R. S., female, aged twenty months, was first seen June 18, 1888. The mother stated that a scaly condition of the scalp and an eruption of reddened patches had been present behind the ears during the summer and fall of 1887. They were similar to lesions now existing, and disappeared spontaneously from the localities last mentioned, remaining, however, upon the scalp. Recurrence of the lesions occurred in March, 1888. They made their appearance on the forehead, temples, and between the eyebrows, then on the neck posteriorly, from which point extension had taken place until the entire neck was encircled and occupied by one lesion. Later the axillæ, the back and chest, flanks, abdomen, and inguinal regions were attacked successively, and only the day before she brought the child to the clinic she had noticed the eruption in one of the popliteal spaces. The baby is and has always been the picture of health, physically and functionally.

Status præsens.—Over the vertex are masses of yellow, greasy, crumbly crusts and a pityriasic condition of the rest of the scalp. The lesions on the face and body varied from a pea to a silver dollar in size. They were round or oval, sharply defined, regular and uninfiltrated, pale, light red, or yellow in color, and only slightly pityriasic. Those on the sternum, however, bore upon their surface small, thin, fatty crusts. Along the junction of the hairy scalp and the forehead a narrow scalloped, red, scaly band extended. The condition around the neck has been mentioned. A large patch covered also the mons Veneris, extending thence laterally to the anterior spinous processes of the ilia and downward over the vulva and the inguinal regions, and around and upward over half of the buttocks, and the anal furrow to the lower lumbar region. This patch was only scaly, perfectly dry, and sharply defined like the other lesions. The baby was never seen to scratch herself, and so it may be supposed that the eruption did not annoy her by itching.

The case which has just been described is an instructive one in many particulars, and also on account of the opportunity it furnishes for differential diagnosis. The first impression given by the description of the lesions would be that it was a case of pityriasis rosea or pityriasis maculata et circinata. But if the mode of development and progression, the general symptoms, and the duration of the disease are taken into consideration, the case can be excluded from that category. It is exceptional for a case of pityriasis rosea to last more than two months, at the end of which time it usually disappears spontaneously; but in this case the lesions had begun on the scalp a year before I saw the baby, and though at the end of some months the patches on the ears disappeared spontaneously, yet they persisted on the scalp. Besides, if we take the case as a whole, where in the history of pityriasis rosea do we find the scalloped, wreath-like band along the forehead at its junction with the hairy scalp, or the symptoms occurring about the mons and vulva, etc., as was observed on this child? The lesions on the trunk were certainly somewhat like those of a pityriasis rosea, but the fawn-colored centers and the tendency to involution of the centers were wanting. Instead of these, the lesions were during their entire existence of a pale red, scaly over their whole surface, and, besides, did not undergo involution in any portion except when treatment appropriate to seborrhoic eczema was applied. The condition about the vulva and inguinal regions was also suggestive of an intertrigo. Granted; but an intertrigo on account of its situation alone, and still at bottom an eczema seborrhoicum. According to my experience, there are many examples of seborrhoic eczema not recognized, owing to their being located in the favorite regions for the symptoms to which the name intertrigo is given. That is, the location has been made to determine the nature of the cutaneous lesion, irrespective of its clinical history, features, and characteristics. The general symptoms indicative of a seborrhoic eczema, intertriginous from its location, will be dealt with at greater length at another time. I would only here recommend careful examination of all cases of intertrigo, and certainly many will be found clearly and unmistakably examples of seborrhoic eczema.

To the cases already given I would add the following two. One of them exemplifies what may be called the rosacea form of seborrhoic eczema, as it simulated a rosacea; the other is one of syphilis complicated by the eczematous process:

Case VII (private practice).—Female, aged twenty-six, consulted me June 12, 1889, for a skin disease present on the nose for two years. She has suffered from fermentative dyspepsia occasionally, but always from dysmenorrhœa. She has been treated for both of these for eighteen months in the hope that when they were relieved the cutaneous trouble would get well also. The result has not been what she hoped for, and, though the internal derangements have improved and only occasionally manifest themselves, the skin has steadily grown worse. She states, on being questioned, that she has had dandruff on the scalp for many years and that she has lost lately considerable of her hair. The first evidences of eruption appeared on the face two years and a half ago, showing itself on the forehead shortly after appearing on the nose and cheeks. These portions, and also the scalp, have ever since itched considerably, the nose becoming red after meals or after drinking anything warm; later the flushing occurring even without any ostensible cause, and the surface then burning and itching.

When examined, a marked pityriasis capitis was noted quite generally over the scalp, and, in addition, on the vertex, a number of round, red lesions, some covered with crusts, others weeping. On the cheeks there were pale red, regular and irregular shaped patches, of pea and finger-nail size, not elevated, but scaly. The entire nose bright red, scaly, and excessively greasy. The alæ covered with fatty, yellow crusts, the rest of the surface with thin, greasy scales.

Case VIII (private practice).—Female, aged twenty-eight, was first seen May 2, 1888, suffering from syphilis. She could give no history of any antecedent eruptions, but she had ceased to bear children at the age of seventeen, and since then had had much headache, tibial nodes, and "sore tongue." A laryngeal affection, which had begun in 1885, has led to partial loss of voice. The present eruption began in November, 1887, on the forehead about midway, and when she was seen it had advanced in a serpiginous manner as far down as the eyebrows. The portion of the forehead over which the disease had progressed showed numerous spots of atrophy, due to the involution of the lesions. These latter, present at the time of consultation, were large, elevated, non-ulcerating papules, upon which thick, yellow, fatty crusts were seated. The removal of any of these did not show any ulceration. Similar lesions were seated on the nose, dorsum and alæ, and naso-labial furrow. On the pinna and concha of the left ear were groups of ulcerating lesions, covered by black and greenish crusts. A severe seborrhœa oleosa of the face was present. The patient complained much of the itching. Under specific treatment the ulcerations healed, the papules underwent for the most part resolution, but the formation of the greasy crusts persisted and new red spots, afterward becoming covered with similar crusts, appeared on the forehead near the eyebrows. The specific treatment was maintained for a month without these symptoms changing, when the possible combination of a seborrhoic eczema with the systemic trouble was suggested by the appearance of some new lesions. On examining the patient to determine the question, it was found that the scalp bore all the evidences of a severe seborrhoic eczema, and proper treatment being applied locally to the affected surfaces, the evidences of disease were removed very rapidly.

The local treatment in this case consisted in the use of a resorcin lotion and sulphur ointment, neither one of which exerts any effect upon pure syphilitic lesions.

7 WEST THIRTY-FIRST STREET.

A CASE OF FATAL SEPTICÆMIA

FOLLOWING CONTUSED INJURY TO THE THUMB IN A STRUMOUS SUBJECT.

By R. R. BALL, M.D.,

ASSISTANT SURGEON, U. S. ARMY.

(Published by authority of the Surgeon-General.)

SAMUEL S., aged twenty-three years, reported at the Post Hospital, Fort Spokane, Wash., on December 29, 1890, suffering with great pain in the left thumb, with the hand and arm very much swollen. The patient was a teamster, and about three weeks previously had received a severe bruise on the thumb by a log falling upon it. He had continued to work, though suffering great pain in it. When he finally came here for treatment the whole thumb and hand were tense and hard, the swelling having extended up to the shoulder joint, the axillary glands being swollen and tender. A free incision was made on the posterior surface of the thumb, and hot poultices were ordered, with directions to report next day.

On the 30th his condition was not improved, no relief having resulted from the incisions. I then ordered him into the hospital. The arm was elevated, and hot applications, covered with oil silk, were constantly applied; pain was relieved by morphine. Twenty drops of the muriated tincture of iron, in water, were given every four to five hours, with plenty of milk and beef tea; ten grains of sulphate of quinine three times daily. On December 31st and January 1st his condition remained about the same, except that the pain had greatly increased, and the evening temperature risen from 99° to 100·4° F. Sulphate of quinine had been increased from ten grains to twenty once in two hours till three doses were taken. The tissues around the shoulder joint had become more boggy and sluggish and greatly swollen, as was the whole arm. On January 2d, after consultation with a medical friend, it was decided to attempt free drainage of the arm. Ether was administered at 10.10 A. M., the patient requiring eight ounces to produce anæsthesia; when he was completely anæsthetized, I made three deep incisions—one along the whole anterior surface of the thumb, one along the palm in line with the middle finger from a point just below the superior palmar arch, and one along the dorsal surface of the metacarpal bone, in a line with the third finger. These incisions were from an inch and a half to three inches in length, and through the periosteal membrane. A small amount of blood and some serous-looking fluid escaped from the wounds, but no pus could be found. The whole arm was then left pendent, and warm, moist cloths were applied till late in the afternoon, when a large hot flaxseed poultice was applied. The patient reacted easily and completely from the anæsthesia, and late that afternoon was feeling comfortable. I saw him at 9.30 P. M. again, and left him fairly comfortable.

On my visit in the morning, at 7.15, while attending sick call, I found him suffering intense pain in the thumb, which had come on during the night. I at once injected three eighths of a grain of sulphate of morphine, which was followed by speedy relief. When I returned to the hospital, at 10 A. M., on my morning rounds, I was much surprised to find the patient in a state of partial collapse, cold, and almost pulseless. Despite every effort to revive him by hypodermics of brandy and ammonia and external heat, he gradually sank, and died at 2.30 P. M.

I was greatly surprised at the rapidly fatal termination of the case, although the prognosis had been bad from the time the patient was first seen. The hope that by free incisions into the tense tissues some vent might be given to the accumulated serum, and thereby relief, even though pus might not yet have formed, was not realized. Indeed, the whole tissues were so phlegmonous and boggy that even from these deep incisions no fluid escaped except by a temporary oozing at the time of operation. In spite of heat and moisture, they were clogged up in a few hours. It is chiefly to the retention in the system of these pent-up poisonous secretions that I attribute the rapidly fatal result.

On inquiry into his family history afterward, which I was unable to elicit at first, I found that a strumous diathesis existed on his mother's side, shown by periodic enlargement of the cervical glands, and that the patient had also been troubled in the same way. This systemic condition goes far to account for the lack of tone in all the tissues involved. The question of amputation at the shoulder joint was considered on his entry, but was dismissed, because the entire tissues around and over the joint were boggy and deeply involved when the case was first seen, and sloughing and fatal hæmorrhage must have followed. The fatal damage had arisen during the delay between the time of injury and the time when treatment was sought.

FORT SPOKANE, WASHINGTON, *January 6, 1891.*

TERPENE IODIDE
IN ACUTE DISEASES OF THE LUNGS.

By WILLIAM H. GREGG, M. D.

FOR the past two or three years I have carried on a series of therapeutical investigations in search of some antiseptic agent that would act as a specific against the development of acute diseases of the lungs, more particularly acute congestion, pneumonia, and those catarrhal and throat affections which are so often the premonitory symptoms of more serious mischief.

While I have demonstrated to my own satisfaction that these diseases may be cut short, I am not so sanguine that the remedy will prove curative in all cases where a disease is once fully developed, yet further investigation may prove that it possesses specific properties even in these cases.

It has been my desire only to suggest some drug or combination of drugs which will prevent the ravages of the various cocci that are carried into the lungs through the agency of those septic storms which are so frequent in this climate, before an actual disease of the lungs has been established.

The great disadvantage the physician has to contend against in the administration of medicines is the changes they are liable to undergo when taken into the stomach before they finally enter the circulation. It would therefore appear that we ought to administer all of our remedies hypodermically, and perhaps this is the more rational way of obtaining their full benefit. But this mode has its objections. In the first place, it requires more or less skill; besides, it is painful and at times is followed by unpleasant effects.

I believe that terpene iodide enters into the circulation unchanged, from the fact that it acts as quickly as if it were administered hypodermically. It is my judgment that the remedy offers greater success and produces happier results than any other of this class of remedies. While it is a powerful antiseptic, it is comparatively harmless, for, after prescribing it for several years, I have yet to meet with any unpleasant effect.

In acute affections of the throat it may be used in spray, while in other cases it may be given to adults in ten-drop doses, on a teaspoonful of sugar, once or twice a day—in the morning and at bedtime. The morning dose should be followed by a glass of milk or bouillon. Larger or more frequent doses are apt to excite too great a discharge of urine.

I have no doubt that terpene iodide will, should it come into general practice, find a wider range of usefulness than that above indicated. As to its value in phthisis pulmonalis, diphtheria, and other zymotic diseases, I am at present unable to speak.

143 West Twenty-first Street.

Dentistry in China.—"The report of the physician in charge of the Ningpo Missionary Hospital for the past year contains some interesting observations on tooth-drawing in China. Dr. Daly remarks that Chinese teeth are much more easily extracted than those of Europeans. The native dentists are said to possess a wonderful powder, which is rubbed on the gum over the affected tooth; after an interval of about five minutes the patient is told to sneeze, whereupon the tooth falls out. Dr. Daly has offered a reward of $100 to any one performing the operation in this way in his presence, on condition that he is allowed to choose the tooth and examine the mouth before and afterward. So far no one will consent to perform the operation on these conditions."—*British and Colonial Druggist.*

Soap as a Remedy for Mosquito Bites.—"Numerous remedies, such as ammonia, oil of cloves, chloroform, etc., have been recommended for mosquito bites, but a writer in the *Kolonialwaaren Zeitung* says that ordinary soap is as good as any of them. He always carries a small piece with him on his country excursions, and in case of a bite makes a lather over the affected part and allows it to dry on. The burning is at once relieved and all pain soon disappears. Should it return, as sometimes happens, it is only necessary to repeat the application."—*Druggists' Circular and Chemical Gazette.*

THE
NEW YORK MEDICAL JOURNAL,
A Weekly Review of Medicine.
Published by D. Appleton & Co.
Edited by Frank P. Foster, M. D.

NEW YORK, SATURDAY, FEBRUARY 14, 1891.

EUPHORIN, OR PHENYLURETHANE.

This substance is another member of the large family of antipyretics, and has already found its way into American prices-current. It is a white crystalline powder, of a faint aromatic odor and a slight after-taste suggestive of cloves. It is soluble in mixtures of alcohol and water, such as wines, and this indicates the preferable mode of its administration. It is only sparingly soluble in water. Its therapeutical properties have been studied by Sansoni, and described by him in the *Therapeutische Monatshefte* for September, 1890. Doses from a grain and a half to three grains, given to adults in health, produced no appreciable effect on the temperature, pulse, or respiration, and the urine showed no traces of phenol, aniline, or substances reducing Fehling's solution. Large doses given to dogs did not lower the blood-pressure. It was not found to alter the composition of the blood, the spectroscope showing no methæmoglobin; it rarely produced cyanosis, and even then only transiently; even toxic doses given to the lower animals had not the effect of changing the blood-composition. The drug was tested by Sansoni in febrile cases where the fever was due to widely differing causes, such as typhoid fever, pneumonia, acute rheumatism, phthisis, pleurisy, orchitis, and influenza, and it manifested a prompt antipyretic action. The maximum effect was reached in about three hours, and lasted from five to seven hours. But the period of accéss of effect may be less, while the continuance of apyrexia may be twelve hours or longer. The return of the elevated temperature was usually somewhat sudden and attended by a chill varying in intensity with the intensity of the disease. The pulse and respiration were not affected, and cyanosis was a rare occurrence under the doses used. During the apyrexia the patients experienced a feeling of comfort; hence the name euphorin, from *euphoria*, signifying a sense of ease or well-being. The antipyretic action of the drug varied much with the individual; hence the initial doses were usually not more than a grain and a half, to be increased subsequently until the suitable dose had been ascertained. As a rule, the daily quantity for adults ranged between fifteen and twenty-two grains. To children under fifteen years, eight grains could be given daily, in two doses, with an interval of half an hour. Roughly estimated, the antipyretic power of euphorin is twice that of antipyrine. In rheumatism, both acute and chronic, the drug was given in larger doses, from twenty to thirty grains daily, than in the febrile cases, and it was well borne. The pains of the acute form of the disease, as well as the fever, were promptly reduced, even when inflammatory swelling was present. In cases of chronic rheumatism the effects of euphorin were less pronounced. In orchitis its action was favorable. As an analgesic in neuralgic affections its range of usefulness was limited, for example, in sciatica and trigeminal neuralgia, and it was ineffectual against migraine and intercostal neuralgia. Sansoni was led to make a few trials of the drug as an antiseptic from having observed that carbolic acid was formed when euphorin was brought into contact with an alkali; and in one case of chronic ophthalmia and one of obstinate ulcer the results were satisfactory.

THE MICROBE OF RHEUMATISM.

Dr. Bordas has given in *La Médecine moderne* the results of some of his researches in acute articular rheumatism, which in his opinion tend to show that the cause of that disease is a pathogenic micro-organism specific in character. He reports that he has been able to isolate and cultivate a microbe which, when injected into the carotid artery of a rabbit, engendered an inflammation of the endocardium with vegetations upon the valves. He believes that acute articular rheumatism with its complications will be proved to be a disease produced by microbes analogous in their production, for example, to the *Micrococcus pyogenes*, and he is convinced that the organism investigated by him will be found by others to be the specific germ of that disease. The investigation was conducted under the supervision of M. Germain Sée, and will undoubtedly stimulate parallel researches in other laboratories. These, if confirmatory, will be important as an advance, not only in ætiological, but in therapeutical results. It is only a year or two since the opprobrium was felt by nearly every thoughtful practitioner when the question arose how it was that quinine cured malarial fever; and now this reproach no longer rankles in the mind since the laboratory work of Laveran has shown that the micro-organism of malaria is destroyed by quinine in his test-experiments; and thus the old answer of many "green-rooms," that quinine is competent to check malarial fevers by reason of the profound impression it makes upon nerve-centers, is done away with. The history of this reproach makes it possible that the alleged discovery of Bordas's may in the future be the means of explaining away that other enigma—why it is that salicylic acid and the salicylates are able to antagonize the rheumatic enemy in so large a proportion of cases.

MINOR PARAGRAPHS.

THE GERM OF PUERPERAL ECLAMPSIA.

The *Archives de tocologie* publishes the researches and experiments of Dr. Emile Blanc on a pathogenic microbe found in the blood and urine of eclamptic women. A previous report on this subject was published by Dr. Blanc in 1889, in which he gave the results of experiments with cultures made from the blood of three women suffering with puerperal eclampsia. It was then found that gravid rabbits, when inoculated with this culture, rapidly went into the eclamptic condition, and abortion and death quickly ensued. In 1890 further experiments were made with the blood of two eclamptics, the blood being obtained from the tip of the finger. After eight hours in a sterilized bouillon culture, the microscope showed the development of numbers of bacilli of variable size—some short, others almost round, some isolated, and others existing in couples, end to end. From the manner of the staining, a nucleus could be made out in the extremity of the germ. A series of inoculations was made on gravid and non-gravid rabbits with cultures from four to eight days old. In the non-gravid rabbits albuminuria, anuria, and some slight convulsive attacks followed the inoculations. In the gravid animals convulsions, albuminuria, anuria, abortion, and death quickly supervened, in some instances in from thirteen to fifteen minutes, in others in the course of a few hours. The dose given was one injection of from two to five cubic centimetres of cultures of from forty-eight hours' to five days' duration. The culture seemed to lose some of its virulence after the fourth day, as the injection of two cubic centimetres of a five days' culture produced only a slight general convulsive condition, albuminuria, and in some instances abortion, but the animal quickly recovered if no other injections were given. Microscopical examinations of the blood and tissues of the inoculated rabbits after death disclosed a micro-organism identical with those of the cultures. From the various series of experiments made, the author was convinced that this germ was capable in every instance of producing the eclamptic phenomena in gravid rabbits. The second series of experiments consisted of the intravenous injection of the urine of pregnant women into rabbits. No very marked change occurred at first, but in from twenty-five to thirty days a fatal epizootic developed among the rabbits retained for experimental purposes, some of which died with convulsions. Post-mortem examinations of these rabbits showed no appreciable change from the normal, but cultures made from the blood and urine resulted in the rapid development of micro-organisms identical with those found after the inoculations. On inoculation with this culture, there resulted albuminuria, eclampsia, paralysis, and death. In every case where cultures were made from the blood and urine in this class, the typical bacilli could be reproduced. In the last series of experiments the author tested the resistance of the germ to the action of chloral. In a number of tubes containing the culture medium chloral was placed in quantities of from nine to four grammes to the litre of the fluid, without the development of any colonies. Three grammes of chloral in the same quantity of fluid showed after some days slight haziness on the surface around the drop of virus. With the addition of two grammes of chloral to the litre of the culture medium the development was not retarded in the least. An inoculation with this last culture produced the same results as if the cultivation had been made entirely without the chloral.

OXYGEN ADMINISTERED BY THE RECTUM AND BY SUBCUTANEOUS INJECTION.

Dr. Francesco Valenzuela has written a paper for *El Siglo Médico* regarding his peculiar plan of employing oxygen by the rectum and hypodermically. An abstract of his paper appeared in the *Lancet* for January 3d. The new treatment has special reference to the relief of senile pneumonia. The writer was led to try his method by reason of his conviction that he had failed to get the desired results from the use of oxygen by inhalation, which failure he explains by the hypothesis that when dyspnœa exists the gas does not come into contact with a sufficiently large vascular area. In the course of his trial of oxygen enemata he found that dyspnœa was decidedly and permanently relieved. The ease with which the gas was absorbed by the intestines was remarkable. It was absorbed rapidly, almost as rapidly as by the lungs, and he found that he could administer four injections of five quarts each in an hour. This suggestion opens a comparatively un-tried field or range of possibly useful therapeusis with oxygen and other gaseous bodies. Concerning Dr. Valenzuela's use of oxygen under the skin, the results were those of a cardiac stimulant, such as are at times desirable during the collapse that follows pneumonia and fevers of low type, cerebral congestion, and asphyxia. There was no calmative action or diminished frequency of the respirations. The arm was the part chosen for the injections, and the quantity of the gas introduced varied from a pint to a quart. Cellular emphysema was, of course, produced, and a sensation of heat was complained of, but both conditions passed away within a few hours. In the employment of the gas in this manner the author believes that he obtained his best results when the gas was in its nascent state. The *Lancet* criticises the paper for its omission to state the temperature of the gas as it was administered by Dr. Valenzuela, the earlier observations of Dr. B. W. Richardson having demonstrated the importance of having the injections warm.

A NEW MODE OF ADMINISTERING SULPHONAL.

Dr. D. D. Stewart, of Philadelphia, has given to the *Medical News* a new formula for the administration of sulphonal which has yielded very satisfactory results. His method is to give the drug at bedtime, stirred in six ounces of boiling water, or two thirds of a glassful, until the powder is thoroughly dissolved. To insure that the water is at the boiling point at the time of contact, it may be heated at the time over a spirit-lamp. A little vigorous stirring will cause the drug to be taken up without precipitation when the potion has been cooled down to the point at which it can be drank. In order to cool the liquid, stirring will assist, but it will be necessary to add cautiously a little cold water. The patient should be encouraged to take the solution while it is yet hot, and to believe that the hotter the dose is the better are its effects. The process of gastric absorption is facilitated by the hot liquid, especially if the stomach is empty, and the period of "therapeutic incubation" is practically done away with. Sleep results in a few minutes and is of a better quality than under the ordinary, less painstaking methods. In special cases, where the physician desires to obscure the disagreeable flavor of the dose, it may be well to add a tablespoonful of *crême de menthe* or some other cordial, which will also promote the speedy absorption of the remedy.

A FAILURE WITH KOCH'S REMEDY.

A significant case was reported at the last meeting of the New York Pathological Society, on Wednesday evening, that seems to us to go far to exemplify the force of the cautions inculcated by Virchow's observations, subsequently re-enforced by Henoch's, as to the possibility of spreading or intensifying a moderate tubercular invasion by the employment of the Koch treatment. The case was that of a man presenting the rational and physical signs of pulmonary tuberculosis, but in whom no pulmonary cavity could be detected. After he had been given twenty-four injections of Koch's liquid, in the usual doses and at the usual intervals, the number of bacilli in the sputum was found to have increased, and the patient's condition was decidedly worse. A cavity was detected in the apex of the lung, and the patient died shortly after the discontinuance of the Koch treatment. After death, the cavity was found in the lung, about as large as a lemon, and there was miliary tuberculous disease of the lungs. The tuberculous foci were surrounded by intense congestion, and the meninges of the brain and various organs were also highly congested. The opinion was expressed that at the outset the case was eminently a proper one for testing the efficacy of the Koch treatment.

HOSPITAL ENDOWMENTS AS MEMORIALS.

The late General Spinner, of Florida, when Treasurer of the United States, was the first public officer to recommend the employment of women, and, in relation to a proposition to build a monument to his memory, Dr. H. C. Yarrow has written a letter to Dr. Ida Heiberger, dated January 10th, in which he says he does not approve "of the waste of any considerable sum for a monument of stone or brass," but says: "Why not perpetuate his kindly acts by establishing either a hospital for women, endowing beds for women in hospitals already established, or turning over a considerable sum of money to the Woman's Clinic, an organization in which sick women are treated by women physicians? My own personal desire would be to see a ward added to the Garfield Hospital which should be entirely for women. I have never believed in the expenditure of money for useless memorials, and I trust that the ladies who meet this evening will give the matter due and careful consideration."

THE TREATMENT OF DANDRUFF.

Dr. Edward Clarke, in the *Lancet* for December 27th, states that he has had good results in persistent dandruff from the following treatment: The scalp should first be thoroughly washed with soap and hot water and then thoroughly dried with a warm and soft cloth; there should then be rubbed into the scalp a glycerole of tannin, of the strength of ten to thirty grains to the ounce. Very obstinate cases will require the higher strength of tannin. This process should be repeated twice a week at first, once a week afterward. If tannin fails, as it will in some cases, then resort is had to resorcin. After the formation of dandruff has ceased the head should be rubbed daily with olive oil containing, to the ounce, ten grains of carbolic acid and a drachm of oil of cinnamon.

THE COLLEGE OF PHYSICIANS AND SURGEONS.

The announcement that the College of Physicians and Surgeons has really become a department of Columbia College is most gratifying to the friends of both institutions. Columbia thus completes its organization as a university, for it is understood that it has no intention of ever including a school of theology; and the medical college adds to its magnificent material outfit the manifest advantages of university government, not the least of which is the emancipation of its faculty from the business cares inseparable from the maintenance of the property.

THE ASSOCIATION OF AMERICAN ANATOMISTS.

The recent meeting in Boston, a notice of which we print in this issue, brought out papers and demonstrations abundantly indicative of the thorough and creditable work done by the association, and must have the effect of stimulating the study of anatomy among the younger men of the medical profession. The list of those who had prepared papers includes the names of many of the best known anatomists of the country.

INTERNATIONAL MEDICAL WORK.

A new journal is announced to appear at Paris, under the title of *L'Univers médical*, to be edited by Dr. Séxéno, a pupil of Apostoli's. This journal purports to be an outcome of the recent Berlin Congress, and will have for its purpose the fostering of a wider professional solidarity among the medical men of different nations. International co-operation in matters of sanitary importance will also receive special attention.

THE ITALIAN HOSPITAL.

Sixty benevolent organizations of Italian membership have united to establish a free dispensary and hospital at No. 179 Second Avenue. The hospital has a capacity of sixty-two beds, an isolation room, a fumigating chamber, a mortuary, and a pharmacy. The Italian government has sent $2,000 to the home branch of the undertaking. Any Italian can become a member by the payment of $3 a year. The value of the plant at the present time is said to be not less than $50,000.

ITEMS, ETC.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported during the two weeks ending February 10, 1891:

DISEASES.	Week ending Feb. 3.		Week ending Feb. 10.	
	Cases.	Deaths.	Cases.	Deaths.
Typhus fever	0	0	0	0
Typhoid fever	8	3	13	2
Scarlet fever	170	22	152	17
Cerebro-spinal meningitis	0	1	5	0
Measles	442	25	419	18
Diphtheria	118	18	108	36
Small-pox	0	0	1	0
Varicella	15	0	8	0
Whooping-cough	0	0	2	0

The Association of American Anatomists.—The third annual meeting was held at Boston on December 29 and 30, 1890, in the anatomical lecture-room of the Harvard Medical School. It was presided over by Dr. F. D. Weisse, second vice-president, and Dr. Thomas Dwight acted as secretary *pro tem.* Papers were read as follows: Corrosion Preparations, by Dr. S. J. Mixter; Studies on the Spine, by Dr. Dwight; A Comparison of the Fibrin Filaments of Blood-lymph in Mammalia and in Amphibia, by Professor S. H. Gage; The Semilunar Bone, by Professor Shepherd; The Structure of Protoplasm and Mitosis, by Dr. Carl Heitzmann; The Homology of the Cerebro-spinal Arachnoid with the Other Serous Membranes, by Professor Langdon; The Occlusion of the Rhinocœle (Olfactory Ventricle) in the Dog, by Mr. P. A. Fish; and The Relations of the Olfactory to the Cerebral Portion of the Brain, The Brains of a Cat and of a Sheep lacking the Callosum, and Owen's Nomenclature of the Brain, with Suggestions based thereon, by Professor B. G. Wilder. With one exception, the papers were illustrated with specimens, photographs, or diagrams, and all were fully discussed. The committee on anatomical nomenclature (Professor Leidy, Professor Harrison Allen, Professor Frank Baker, Professor Thomas Dwight, Professor T. B. Stowell, and Professor B. G. Wilder) were authorized to publish as their second report such general and specific recommendations as might be unanimously agreed upon by them. The following-named gentlemen were elected members: Dr. W. L. Dana, of Portland, Me.; Dr. John C. Munro, of Boston; and Mr. Pierre A. Fish, of Ithaca, N. Y. The next meeting will be held at Washington at or about the time of meeting of the Congress of American Physicians and Surgeons in September, 1891. The officers for that meeting are as follows: President, Professor Joseph Leidy; vice-presidents, Professor Frank Baker and Dr. F. D. Weisse; secretary and treasurer, Dr. D. S. Lamb; executive committee, Professor Harrison Allen, Professor Thomas Dwight, and Professor B. G. Wilder.

An Army Medical Board will be in session in New York city during April, 1891, for the examination of candidates for appointment in the medical corps of the United States Army, to fill existing vacancies. Persons desiring to present themselves for examination by the board will make application to the Secretary of War, before April 1, 1891, for the necessary invitation, stating the date and place of birth, the place and State of permanent residence, the fact of American citizenship, the name of the medical college from whence they were graduated, and a record of service in hospital, if any, from the authorities thereof. The application should be accompanied by certificates, based on personal knowledge, from at least two physicians of repute, as to professional standing, character, and moral habits. The candidate must be between twenty-one and twenty-eight years of age, and a graduate from a regular medical college, as evidence of which his diploma must be submitted to the board. Further information regarding the examinations may be obtained by addressing the Surgeon-General, U. S. Army, Washington, D. C.

The Harlem Medical Association.—At the meeting of Wednesday evening, the 4th inst., the programme included the continuation of a discussion on Spinal Lesions, opened by Dr. T. H. Manley; a report of Some Interesting Cases of Pleurisy, with Special Reference to Ætiology, by Dr. R. Van Santvoord; reports of A Case of Acephalism, with Remarks on Maternal Impressions, and A Case of Pneumonia following Fracture of the Sternum, by Dr. P. Schoonmaker; and the presentation of a specimen of Malformation of the Intestinal Canal, by Dr. G. H. Cocks.

The New York Academy of Medicine.—At a recent meeting of the Section in Pædiatrics, Dr. A. Caillé was elected chairman for the ensuing year, and Dr. W. L. Carr was re-elected secretary.

At the next meeting of the Academy, on Thursday evening, the 19th inst., Dr. Joseph D. Bryant will read a paper on The Operative Treatment of Aneurysm of the First and Second Portions of the Subclavian Artery.

The American Medical Association.—Dr. Benjamin Lee, of Philadelphia, secretary of the State Board of Health of Pennsylvania, has accepted the position of secretary of the Section in State Medicine. Dr. Lee gives notice that, as the meeting takes place in Washington, beginning on May 5th, it is important that all papers intended for this section should be in his hands by the 5th of April. All members of the association desiring to be enrolled in the section are requested to forward him their names at No. 1532 Pine Street, Philadelphia.

Dr. Johnston's Aseptic Pocket-case Instruments.—In the manuscript of Dr. James Johnston's description of his ingenious device, published in last week's issue, his place of residence was not stated. It is Bradford, Pennsylvania.

The Woman's Medical College of the New York Infirmary.—This (Saturday) afternoon there will be a reception in the new building, No. 321 East Fifteenth Street.

The Jefferson Medical College.—The chair of materia medica and general therapeutics is reported to have been offered to Dr. Albert P. Brubaker, who is an alumnus of that college, of the class of 1874, and has served the school in the capacity of demonstrator of physiology.

The West End Medical Society.—At the annual meeting, on Saturday evening, the 7th inst., officers for the year were elected as follows: President, Dr. E. J. Ware; vice-president, Dr. F. J. Bowles; secretary and treasurer, Dr. F. Spencer Halsey.

The New York Ophthalmological Society.—The following officers have been elected for the ensuing year: President, Dr. H. S. Oppenheimer; vice-president, Dr. J. B. Emerson; secretary and treasurer, Dr. John E. Weeks; committee on admissions, Dr. J. S. Prout, Dr. D. B. St. John Roosa, and Dr. Henry D. Noyes.

The Death of Dr. George R. Cutter occurred on Wednesday, the 11th inst. The deceased, who was fifty years old, was a graduate of the College of Physicians and Surgeons, of the class of 1861. He was one of the surgeons of the New York Eye and Ear Infirmary, and was the author of a German-English medical dictionary. For several years preceding his death he had lived in Brooklyn.

The Death of Dr. James R. Cumming, of Bridgeport, Conn., is announced as having taken place on the 4th inst., of diabetes. He was a graduate of the College of Physicians and Surgeons, of New York, of the class of 1862.

The late Dr. Joseph Parrish, of Burlington, N. J., who died January 15th, in his seventy-third year, was the son of the eminent Dr.

Parrish, of Philadelphia, a graduate of the University of Pennsylvania in 1844, a professor of obstetrics for a short period in the Philadelphia Medical College, and an organizer of two or more hospitals for the cure of inebriety. He established, in 1848, the *New Jersey Medical and Surgical Reporter*, and was largely instrumental in founding the American Association for the Study and Cure of Inebriety. His writings on mental perversions, habituations, and deficiencies have been numerous, and have been influential beyond almost all others of his contemporaries in the same field.

Changes of Address.—Dr. John Aulde, from Philadelphia to Jacksonville, Florida; Dr. W. A. Ewing, to No. 134 West Fifty-eighth Street; Dr. James A. Lydston, from Washington, D. C., to Denver, Colorado.

Army Intelligence.—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from January 25 to February 7, 1891:*

Patzki, Julius H., Major and Surgeon, is, by direction of the Secretary of War, granted leave of absence for six months, with permission to go beyond sea. Par. 5, S. O. 24, A. G. O., Washington, D. C., January 29, 1891.

Stephenson, William, Captain and Assistant Surgeon, will, by direction of the Secretary of War, proceed without delay from Columbus Barracks, Ohio, to Fort Wayne, Michigan, and report in person to the commanding officer of that post for temporary duty, and upon completion thereof return to his proper station. Par. 13, S. O. 23, A. G. O., Washington, D. C., January 28, 1891.

Gibson, Robert J., Captain and Assistant Surgeon, is, by direction of the Secretary of War, relieved from further temporary duty in the field, to take effect so soon as his services can be spared by the officer commanding the troops with which he is serving, and will then return to New Haven, Conn., and resume his leave of absence. Par. 6, S. O. 22, A. G. O., Washington, D. C., January 27, 1891.

Gandy, Charles M., Captain and Assistant Surgeon, is, by direction of the Secretary of War, relieved from temporary duty in the field, to take effect when his services can be spared by the commanding officer of the troops with which he is serving, and will then return to Ocean View, Cape May County, New Jersey, and resume his leave of absence. Par. 1, S. O. 21, A. G. O., Washington, D. C., January 26, 1891.

Owens, William O., Jr., Captain and Assistant Surgeon, is, by direction of the Secretary of War, relieved from temporary duty with troops in the field, to take effect as soon as his services can be spared, and will then return to Muskogee, Indian Territory, and resume his leave of absence. Par. 3, S. O. 20, A. G. O., Washington, D. C., January 24, 1891.

Reed, Walter, Captain and Assistant Surgeon, is, by direction of the Secretary of War, relieved from temporary duty at Fort Keogh, Montana, to take effect as soon as his services can be spared by the commanding officer of that post, and will then return to Baltimore Md., and resume his duties in that city as attending surgeon and examiner of recruits. Par. 3, S. O. 20, A. G. O., Washington, D. C., January 24, 1891.

Cowdrey, Stevens G., Major and Surgeon. By direction of the Secretary of War, the extension of leave of absence on account of sickness granted in Special Orders No. 302, December 27, 1890, from this office, is still further extended two months on surgeon's certificate of disability. Par. 13, S. O. 19, A. G. O., Washington, D. C., January 23, 1891.

Gardner, William H., Major and Surgeon, is, by direction of the Secretary of War, relieved from further duty in the field, and will return to his proper station. Par. 2, S. O. 19, A. G. O., Washington, D. C., January 23, 1891.

Davis, William B., Captain and Assistant Surgeon. The leave of absence for seven days granted by Orders No. 2, Fort Preble, Maine, February 4, 1891, is hereby extended twenty-three days, with permission to apply to the Adjutant-General of the Army for a further extension of one month. Par. 2, S. O. 22, Headquarters, Division of the Atlantic, Governor's Island, New York, February 5, 1891.

Chapin, Alonzo R., Captain and Assistant Surgeon, Fort Yates, North Dakota, is granted leave of absence for one month, with permission to apply to the Adjutant-General of the Army for an extension of one month. Par. 3, S. O. 17, Department of Dakota, St. Paul, Minn., January 31, 1891.

DeWitt, Calvin, Major and Surgeon, is, by direction of the Secretary of War, relieved from duty at Fort Hancock, Texas, and will report in person to the commanding officer, Fort Sam Houston, Texas, for duty at that station. Par. 1, S. O. 27, A. G. O., Washington, D. C., February 3, 1891.

Naval Intelligence.—*Official List of Changes in the Medical Corps of the United States Navy for the week ending January 31, 1891:*

Crandall, R. P., Assistant Surgeon. Ordered to examination preliminary to promotion.

Berryhill, T. A., Passed Assistant Surgeon. Detached from the McArthur and to wait orders to the Marion.

Jones, W. H., Surgeon. Detached from the Swatara, to proceed home, and granted six weeks' leave.

Marine-Hospital Service.—*Official List of Changes of Stations and Duties of Medical Officers of the United States Marine-Hospital Service for the six weeks ending February 7, 1891:*

Bailhache, P. H., Surgeon. Granted leave of absence for seven days. January 12, 1891.

Purviance, George, Surgeon. To proceed to Pittsburgh and Erie, Pa., Cleveland and Toledo, Ohio, Detroit, Mich., and Buffalo, N. Y., as Inspector. December 29, 1890.

Carrington, P. M., Passed Assistant Surgeon. Granted leave of absence for seven days. January 16, 1891.

Geddings, N. D., Assistant Surgeon. To report in person to the Supervising Surgeon-General. January 16, 1891. Detailed for special duty, Port of Georgetown, D. C. January 19, 1891.

Stimpson, W. G., Assistant Surgeon. To proceed to New Orleans, La., for temporary duty. January 6, 1891.

Sawtelle, H. W., Surgeon. Detailed as member of Board, Revenue Marine Service. January 26, 1891.

Austin, H. W., Surgeon. Detailed as Chairman of Boards for Physical Examination of Officers of Revenue Marine Service. January 28 and February 6, 1891.

Pettus, W. A., Passed Assistant Surgeon. Detailed as Medical Inspector of Immigrants, Port of Boston, Mass. January 29, 1891.

Magruder, G. M., Passed Assistant Surgeon. Detailed as Recorder of Boards for Physical Examination of Officers of Revenue Marine Service. January 28 and February 6, 1891.

Kinyoun, J. J., Passed Assistant Surgeon. Detailed for special duty at Berlin, Germany. January 26, 1891.

Groenevelt, J. F., Assistant Surgeon. To proceed to Cape Charles Quarantine for temporary duty. February 7, 1891.

Society Meetings for the Coming Week:

Monday, *February 16th:* New York Academy of Medicine (Section in Ophthalmology and Otology); New York County Medical Association; Hartford, Conn., Medical Society; Chicago Medical Society.

Tuesday, *February 17th:* New York Academy of Medicine (Section in Theory and Practice of Medicine); New York Obstetrical Society (private); Medical Societies of the Counties of Kings and Westchester (White Plains), N. Y.; Ogdensburgh Medical Association; Baltimore Academy of Medicine.

Wednesday, *February 18th:* Northwestern Medical and Surgical Society of New York (private); Medico-legal Society; Metropolitan Medical Society (private); Harlem Medical Association of the City of New York; New Jersey Academy of Medicine (Newark).

Thursday, *February 19th:* New York Academy of Medicine; Brooklyn Surgical Society; Jenkins Medical Association, Yonkers, N. Y.; New Bedford, Mass., Society for Medical Improvement.

Friday, *February 20th:* New York Academy of Medicine (Section in Orthopædic Surgery); Baltimore Clinical Society; Chicago Gynæcological Society.

Saturday, *February 21st:* Clinical Society of the New York Post-graduate Medical School and Hospital.

Answers to Correspondents:

No. 345.—We are happy to be able to say that we do not know of an instance in which a reputable physician has furnished a newspaper with the manuscript of a clinical lecture, and we agree with you that such a procedure would be contrary to ethics.

Letters to the Editor.

THE TREATMENT OF ALVEOLAR ABSCESS.

220 West 123d Street, New York, *January 24, 1891.*

To the Editor of the New York Medical Journal:

Sir: A second letter from Dr. Rhein on the subject of alveolar abscess appears in your issue of the 17th inst., criticising my article of November 22, 1890.

It is with considerable reluctance that this subject is again brought before the profession, as so much has been written upon it of late in your Journal, but several statements made by Dr. Rhein in his last communication can not be allowed to pass unrefuted.

The great progress made in dentistry of late years, especially in America, is fully appreciated by the medical profession, and they will welcome the day when every hospital in the country has its dental specialist. But, until fractures and dislocations, necrosis and malignant growths of the jaws, cleft palate and epithelioma of the tongue, are handed over to the care of the dentist, the surgeon will continue to treat the severer forms of alveolar abscess. It is needless to say that this statement does not include physicians who have made a specialty of oral surgery.

No attention whatever has been paid in this discussion by the writer to the chronic or superficial forms of this affection, but only to the more severe, which at times involve very important structures and give rise to the gravest symptoms. These are generally conceded to be surgical affections, consequently standard works on surgery are considered good authority on their treatment. The writer has no intention of invading the province of the dentist in speaking of these cases, neither does he wish to be understood as advocating the extraction of every tooth causing an alveolar abscess, but only when *abortive measures fail;* and he would like to know where Dr. Rhein obtained the idea that he did advise such treatment.

But he does consider the patient's life and at times his personal appearance (in the case of fistulæ) of much more value than a tooth.

Moreover, many of these abscesses are due to the roots of teeth whose crowns are hopelessly decayed. Can there be any object in retaining them?

The frequent refusal of dentists to extract such stumps while the inflammation is going on has been pointed out by the writer and has not since been disproved.

The danger of retaining so-called dead teeth (which so often cause these abscesses) has been pointed out in an able article entitled The Care of the Teeth from a Medical Practitioner's Standpoint, by Dr. Samuel Sexton, a well-known specialist of this city.*

In regard to the treatment of the cases reported (which Dr. Rhein never saw), to which he objects, remarks are almost superfluous. General rules may be laid down for the treatment of diseased conditions, but no man can tell just how a given case should be handled until he has seen and examined the patient. Those familiar with osteotomies know how difficult it is to remove all the diseased tissue the first time (especially in patients who are run down in health like the one reported), and how frequently the operations have to be repeated even after the most careful work. That these abscesses do frequently rupture spontaneously on the face is too well known to require comment. Two cases are known to the writer in which external fistulæ formed after the diseased teeth had been extracted (in these cases the operation was not performed until the disease was well advanced). In regard to the doctor's remark that it is inexcusable to make an external incision in these cases, the following case is in point: A. M., aged seventeen, came to the dispensary on January 7, 1891. Her face was much swollen, and all the symptoms of alveolar abscess were present. The trouble had evidently started on the inner side of the alveolar process; the abscess occupied the floor of the mouth, and it showed a tendency to point under the chin. The patient was unable to separate the jaws, she would not take ether, and all attempts to reach the pus within the mouth were fruitless.

She was much depressed and could neither eat nor sleep. Only one thing was left to do—viz., open it externally. This was promptly done, and it was followed by immediate relief.

In another one of these cases which the writer assisted in operating on, the pus had made its way between the muscles of the neck and pressed upon the larynx. Respiration was obstructed and it was evident that, if immediate relief was not given, death would follow in a few hours. The impracticability of draining such an abscess through the mouth is too obvious for comment.

The case mentioned by the doctor of an alveolar abscess discharging in the toe is very interesting as a new form of "foot and mouth disease," but such cases hardly occur often enough to have much weight.

So long as this discussion was confined to the subject in hand, the writer was willing to continue it, but a dissertation on terms is profitless.

The article in question was written with the idea that the cases reported might be of interest to the profession, and if some of your readers have been impressed with the importance of prompt treatment of these abscesses, and the early extraction of useless stumps causing them, I shall feel that it was not written in vain. J. D. MacPherson, M. D.

⁂ If either of the gentlemen who have taken part in this controversy wishes to contribute further to the literature of the subject, he may do so in our columns in the form of an article dealing with the theme. We can not give up more space to the discussion in the form of letters.

Proceedings of Societies.

MEDICAL SOCIETY OF THE STATE OF NEW YORK.

Eighty-fifth Annual Meeting, held in Albany on Tuesday, Wednesday, and Thursday, February 3, 4, and 5, 1891.

The President, Dr. William Warren Potter, of Buffalo, in the Chair.

(*Continued from page 162.*)

The State Society's Committee on Legislation.—Following the report of the committee (see page 157), Dr. Lewis said that there was no question but that an attempt would be made to repeal this law in the present session. It was by no means certain that this effort would not be successful, and then the State society would be in the very ridiculous position of having secured the enactment of a law and seeing it repealed before it came into effect. He therefore offered the following resolution, which was carried: That the Medical Society of the State of New York urges the strict enforcement of the medical act of 1890, and is opposed to anything repealing or amending the same until it has been fully tested. That a copy of this resolution shall be sent to the Legislature and to the Governor of the State if deemed advisable.

---

* *Medical Record*, June 1, 1889.

The New Board of Examiners.—A committee was appointed to nominate fourteen others, said fourteen to constitute the board of examiners for the State under the new law. This committee named the following gentlemen, whose appointment was confirmed by general consent: Dr. W. C. Wey, of Elmira; Dr. B. F. Sherwin, of Ogdensburg; Dr. W. W. Potter, of Buffalo; Dr. W. S. Ely, of Rochester; Dr. G. F. Shrady, of New York; Dr. J. P. Creviling, of Auburn; Dr. Lewis S. Pilchard, of Brooklyn; Dr. E. B. Angell, of Rochester; Dr. G. R. Fowler, of Brooklyn; Dr. H. De V. Pratt, of Elmira; Dr. C. L. Dana, of New York; Dr. Eugene Beach, of Glenville; Dr. V. P. Gibney, of New York; and Dr. J. Lewi, of Albany.

A Plea for Rapid Dilatation; Holt's Operation in the Treatment of Urethral Stricture.—Dr. F. R. Sturgis read a paper with this title. He said that among the many methods of treating urethral strictures in the male, one which presented to his mind many points of advantage over urethrotomy seemed to have been overlooked, and that was rapid dilatation or divulsion by means of Holt's instrument. The advantages were—first, the avoidance of severe hæmorrhage; second, the avoidance of severe chill; third, the lessening of the dangers of septicæmic complications. It was well known how possible alarming and even fatal bleeding might occur as a sequel to internal urethrotomy. Such personal experience had led him to adopt the method of Holt. Since then he had never had an instance of hæmorrhage in which the bleeding was not easily controlled by the use of cold or styptic injections. It had been in former times his practice to guard against the occurrence of chills by the administration of quinine and opium. He had, however, come to the conclusion that this was an unnecessary precaution. He saw that the patient emptied the bladder before and after the etherization, if desirous of doing so. He never left an instrument in the urethra; he thought it unnecessary and provocative of chills. He had never seen a case of septicæmia occurring as the direct result of rapid divulsion. The contraindications for the use of this method, and which were still more so to any cutting operation, were very tight strictures with spasmodic contraction of the canal, renal disease, and predisposition to chill after the slightest examination of the urethral canal. In all these conditions, if operation was imperative, external urethrotomy was to be preferred. In suitably selected cases, he thought better results would always follow divulsion than section. Fewer relapses would take place if proper care were taken to observe the after-treatment with sounds. His conclusions were that divulsion was comparatively free from danger; that it could be performed under unpromising circumstances; and that it would be followed by satisfactory results.

Dr. Seneca D. Powell said that the last speaker had omitted one of the advantages which dilatation possessed over the knife, and that was the separation of fibers at different points around the circumference of the canal, avoiding the tendency to recontraction at the point of incision. Then again it was customary in using the knife on the urethra to allow the canal to be undisturbed for four or five days, except a soft catheter was passed to draw away urine, and during this time adhesions were taking place, which prevented the operation being as beneficial as it would otherwise be. In 1881 he had brought before the profession a divulsor the construction of which permitted the dilatation of the entire canal, the divulsion being made by four plates instead of two.

Dr. Daniel Lewis had never seen a case of rapid dilatation or of cutting which did not require as much work to keep the canal open afterward as would have served to keep it so without these methods. Patients came to his office with their boots full of blood after these operations, and then required attention by sounds for months. He thought that in most cases the desired end could be equally well accomplished by gradual dilatation.

Dr. Willy Meyer thought that if a stricture was cut thoroughly and correctly, and dilated for some time afterward, it would not require subsequent test by the bougie; but if gradual dilatation were performed, the patient would have to test the stricture during his whole life.

Dr. Powell said he must remind Dr. Lewis that the meatus was the narrowest part of the canal, and that it was impossible to dilate strictures of large size with a conical sound without first splitting the meatus. While the patient was comparatively young and the tonicity of the bladder and other muscular structures concerned in voiding the urine remained unimpaired, the meatus did not play so important a part, but later in life it acted as a nozzle to carry the urine away from the patient while voiding it. In divulsion the integrity of the meatus need not be interfered with. He did not see any reason why deep strictures should not be divulsed.

Dr. H. Mynter said that the safest operation was that of perineal section, and after that came the use of the Holt instrument. Cutting a stricture was a dangerous operation, and he certainly would never interfere at a point below four inches and then, if an operation were imperative, he would do an external one.

Tumor of the Centrum Ovale.—Dr. L. C. Gray, of New York, read a paper with this title. He related the history of the case of a patient who had suffered from motor paralysis and paralysis of the muscular sense. At the autopsy a round-cell sarcoma of about the size of hickory nut had been found one fourth of an inch beneath the cortex at the junction of the leg and arm center of the posterior central convolution. The patient, a man of thirty-eight, had been brought to the speaker from Richmond, Va., by Dr. I. H. White, two weeks after motor paralysis had begun in one lower extremity. As there was a large tumor in Scarpa's triangle, and as an angeioma had been removed some time before from the popliteal region, the speaker had been led to believe that the symptoms were caused by an intracranial tumor. There was motor paralysis of one lower extremity and paralysis of the muscular sense, and slight headache, but no mental symptoms whatever. The patient had been advised to go home and settle his affairs, and to have trephining done if he grew worse. Two weeks after he had been brought to New York and had been found to have a motor paralysis and a paralysis of the muscular sense, also of the upper extremity on the same side as the paralysis which had first appeared. He was gradually becoming comatose. The headache was very much worse. There were no changes in the optic disc, and very slight impairment of the tactile sense or motor or sensory disturbance beyond that mentioned. The patient had been operated upon by Dr. Wyeth, but neither by palpation nor by exploration could any tumor be found. Death had occurred two days after the operation and at the autopsy the growth was discovered as above described. The speaker said that neurologists were divided in opinion as to the exact location of the muscular sense, and he thought that this case was unique as indicating, within a period of very rapid development, the precise locality.

Dr. J. LEONARD CORNING thought that the exact localization of the cerebral function in a strictly mechanical sense was hardly to be looked for. He did not think that cerebral surgery was going to do what had been promised from it. Less and less of it would be done, and the little that was undertaken would be restricted to the cases of so-called Jacksonian epilepsy, and where there was reasonable proof of the existence of the tumor near the surface of the brain, and that it was probably non-malignant in character. This would narrow the field very much, as, with the exception of the syphilitic growths, neoplasms of the brain were for the most part malignant. He should like to ask if Dr. Gray would advise operation in the case of deep-seated tumors. If he did not find growth by puncture, would he cut through the cortex and strip it off until he did?

Dr. GRAY said that he should not hesitate to cut down in every direction in cases similar to the one of which he had spoken. Here the man had been in a somnolent state, with death at his heels. If the end were hastened by the scalpel, it was only justifiable euthanasia.

Two Cases of Traumatic Hysteria was the title of a paper by Dr. HENRY HUN, of Albany. The first case had resulted from a railway collision, and the second from a severe fall in the street. In the first instance there had been hysterical convulsions, temporary insanity, hemianæsthesia, and paralysis of motion and sensation in one leg. Both cases had presented many symptoms typical of hysteria. Seclusion in a hospital and vigorous and painful treatment had been necessary before any improvement was manifested. The first patient had been cured, and the second greatly improved. In the first case the cure had not taken place for more than a year after substantial damages had been awarded. Indeed, both patients had been awarded large damages, but the progress toward recovery had been in no way modified by this fact. Simulation had been carefully considered and excluded. The speaker said that the question as to the amount of money which was to form just compensation for an injury received was always a difficult one to answer, and this was especially true when in regard to injury of the nervous system, whether organic or functional. In the case of organic nervous disease—such as cerebral tumor, myelitis, neuritis, etc., which might result from an injury—these lesions were always of such slow development that several years might elapse before the symptoms were pronounced, and therefore the injury to the nervous system was not fully manifested till long after the question of damages had been settled. The question was not less difficult in the case of those functional diseases of the nervous system resulting from injury, and the difficulty in these arose partly from the danger of deception, because many of the symptoms were easily feigned, and the patient had great temptation for such feigning of symptoms, and partly from the great obscurity of the pathology of these diseases. These cases of functional nervous diseases, which were described by Erichsen under the name of spinal concussion or railway spine, were now generally regarded as of cerebral origin, and known by the name of traumatic neuroses. They depended in their ætiology quite as much on the fright as on the physical injury. In conclusion, it was suggested that, if any claim for damages was made on account of a functional nervous disease resulting from injury which was due to the negligence of a corporation or an individual, it would be wise if such corporation or individual were to offer to pay for the special hospital treatment of the patient in the hope of obtaining a rapid cure. In a considerable number of cases the offer might be accepted, and in the other cases the fact that the offer had been made would put the defendant in a better light before the jury, for no expert could deny that, had a course of treatment been adopted, the patient would have stood a better chance of recovery. Furthermore, on deciding upon the amount of compensation, it should be remembered that a considerable number of these cases were easily and rapidly cured under proper treatment, especially after the question of damages had been definitely settled.

The Treatment of Detached Retina.—Dr. DAVID WEBSTER, of New York, read a paper on this subject. (To be published.)

Dr. D. B. ST. JOHN ROOSA said he thought that Dr. Webster had rendered signal service to the public in reviving operative and therapeutic measures in this condition. At best, the prognosis was but bad, but that should not deter from an attempt at cure, and in a small contingent something might be accomplished. We were not sufficiently informed to enable us to scientifically attack the causes which led up to the disease, and, in the absence of any better knowledge on the subject, he thought that they were justified in taking Dr. Webster's view of the situation.

Dr. H. D. NOYES said that while he did not wish to throw cold water upon the hopeful view which the author of the paper had taken, he thought that very little was to be expected in this disease from operative or any other procedure. The best results were to be looked for from measures directed to the general health of the patient and a restoration of the healthful condition of the eye itself.

Dr. WEBSTER, in reply to a request, detailed the steps of the operation. With the eye cocainized the patient was directed to turn the eyeball in that direction which would enable the operator to puncture at a point on the sclera as nearly as possible opposite the retinal detachment. The puncture was then made with a von Graefe's knife, the knife then being slightly turned to allow the escape of the subretinal fluid. A careful attempt was then made with the knife still in position to slightly wound the retina, in the hope of setting up some exudative process and thus facilitating adhesion. The scleral wound was then closed with a couple of stitches, the eyes bandaged, and the patient kept quiet for a few days.

The Causes of Asthenopia.—This was the subject treated of by Dr. D. B. ST. JOHN ROOSA. In speaking of asthenopia he did not include those cases which were the inevitable result of certain diseases of the eyeball or of any part of it, but those cases which were congenital and where no appreciable eye lesions existed other than those of unequal development in the diameters of the eyeball. He denied the existence of an absolutely normal eye—that was to say, normal as to refraction—and asserted that the members of the human race were never born into the world with normal eyes, except in very rare instances. These congenital abnormities were seen in the large percentage of hypermetropias, myopias, and astigmatisms with which the ophthalmologist had to deal, such conditions being a cause and not an effect of the asthenopia when it existed, though these abnormities were frequently present without any asthenopia ever being complained of. Back of all the alleged causes of asthenopia lay the nerve exhaustion of the nineteenth century; it was essentially a disease of our time. As to the matter of muscular insufficiency the speaker was convinced, but had been unable to satisfy all his friends, that to chase up the ocular muscles in the hope of effecting a cure for all cases of asthenopia was utterly useless. Honest investigation of the causes of this condition must be looked for among disorders of the nervous system.

Dr. NOYES said the attitude taken by the last speaker and by those who held similar views reminded him of a story told of the late Bishop Wilberforce, who had in his household a domestic of the Romish religious persuasion. The Bishop one day said to her: "Margaret, I suppose you think that your mistress and I can never get to heaven?" "Oh! I do not say so; I think you will be saved on account of one thing." "And what is that?" asked Wilberforce. "Why, on account of your hinwincible hignorance." The speaker had given the subject of asthenopia a constant study for a very long period. He wished to be understood that he was not one of those who saw in these cases no other cause than muscular insufficiency. The last speaker had denied the existence of such a thing as muscular asthenopia, and with that opinion he begged absolutely to differ. The speaker then referred to one hundred carefully selected cases in which treatment directed to the ocular muscles had cured or benefited the asthenopic symptoms. This treatment had either been by the proper adjustment of prisms or by operation. In cases where he had decided that tenotomy was indicated his results had been all that could be desired.

Migraine and Headache from Eye Strain.—The point made in a paper on this subject by Dr. P. Callan was that eye strain was responsible in seventy-five per cent. of the cases for functional headache and migraine.

One Thousand Cases of Ocular Headache and the Different States of Refraction connected therewith.—Dr. W. F. Mittendorf said that Dr. Roosa had anticipated the points which he had endeavored to emphasize in the paper which he had prepared. He believed that the treatment of a large majority of these eye cases should be directed to the improvement of the hygienic surroundings of the patients. Of the thousand cases of headache which he had observed and tabulated, only a fractional portion could be set down as the result of muscular insufficiencies directly.

Some Points on the Pathogenesis of Aural Vertigo.—This was the title of a communication by Dr. O. D. Pomeroy, of New York. (To be published.)

Appendicitis.—The importance which is now attached to inflammatory disturbances in the region of the appendix vermiformis from a medical and surgical standpoint was well demonstrated by the fact that an entire evening session was devoted to what proved to be a brilliant and exhaustive consideration of this subject. It is impossible in this writing to attempt more than the most superficial *résumé* of the points brought out by the several speakers.

Dr. Herman Mynter, of Buffalo, to whom had been assigned the expounding of the gross pathology of the disease, said that he had followed in this respect the nomenclature of Professor With, of Copenhagen, who had described three forms of appendicitis: 1. *Peritonitis appendicularis adhesiva*, in which the ulceration in the appendix went so deep that the peritoneal covering was affected and adhesions were formed. 2. *Peritonitis appendicularis localis*, characterized by local peritonitis and abscess. 3. *Peritonitis appendicularis universalis*, in which there was diffuse peritonitis by perforation of the peritoneal cavity. The question as to whether abscesses which formed were intra or extraperitoneal had been much debated upon. He saw no reason for any disagreement upon this point. Both the cæcum and the appendix were, according to Bull and others, always completely invested by peritonæum. An abscess starting in the appendix must necessarily at the onset be intraperitoneal, limited by adhesions. If the adhesions were strong and exudations continued to be deposited so that the perforation into the abdominal cavity was prevented, the parietal peritonæum might become perforated and the pus was then in the retroperitoneal tissue—*i. e.*, in the iliac fossa—and constituted an extraperitoneal abscess, and, if not opened by an extraperitoneal incision above Poupart's ligament, might perforate elsewhere, as, for instance, into the rectum, the ischio-rectal fossa, or backward.

Dr. A. G. Gerster, continuing the subject of the pathology, said that in a majority of cases of perforation of the appendix the cause was to be found in stenosis, or atresia, of some portion of the organ. Then there were perforations which occurred without such conditions being present, as, for instance, from tuberculous ulceration, typhoid fever, and so on. It had been thought that foreign bodies had played a very important part in producing perforation; but he believed that, taking into consideration the large quantity of such bodies which were constantly swallowed in food, perforation ought, under such circumstances, to be much more frequent than it was. The appendix, having a muscular coat, had the power of expelling bodies which might be caught in its blind sac. He thought that this view was proved by the fact that in a vast proportion of cases of perforative and non-perforative appendicitis foreign bodies were not present at all. The most common cause of the trouble was a catarrhal condition which either took origin in the appendix itself, or was continued or transmitted from the caput coli into the appendix; the latter seemed to the speaker the most common process.

Dr. Charles McBurney then gave an elaborate review of his own practical experience in treating the disease surgically, and the deductions which he had drawn therefrom as to the indications for early laparotomy. He emphasized the fact that the earliest possible diagnosis and frequent examination of the patient might properly be demanded of every physician and surgeon who was called to attend a case of appendicitis. Clearly defined rules, which would guide safely in all instances to a decision as to when a case of appendicitis might be safely treated conservatively, could not be laid down. A general description often, but not always, applicable was the best substitute he could offer. The diagnosis having been made in a given case, the treatment should be directed to insuring absolute rest and controlling periperistalsis and retroperistalsis. As a local application over the cæcum and appendix, cold was by far the best. Anodynes should not be given to the point of masking the symptoms, and were possibly better avoided altogether. If nausea disappeared within twelve hours, if at the end of the same period tenderness on pressure had not increased, if the temperature remained normal or had not risen to 100° F. in the mouth, if the pulse was not accelerated or but slightly so, and if the patient moved in bed with ease, the case was probably a mild one, destined to recovery. If at the end of twelve hours more this state of things still obtained, the chance of favorable ending was enhanced. If during the succeeding two days no tumor had formed and the symptoms had all improved, or some had improved while others had remained stationary, the case might be considered as practically safe, although complete rest should be enjoined. Again, in other cases the temperature would be higher, the pulse full, and the nausea considerable; still these symptoms might not increase in severity, and the indications for conservative treatment would be clear. In these latter cases a short interval of twelve hours or more would usually develop signs of improvement, or of the cessation of advance, or of the advance of the symptoms. If signs of improvement had appeared, medical treatment would be continued. If the symptoms had merely ceased to advance, the decision would be postponed till another visit, to be made after a short interval, the medical treatment being in the mean time continued. If the symptoms had become more marked, then the question of immediate operation arose. In all of those cases which showed well-marked signs of increasing disease, the question of an operation should be deliberately and carefully discussed, and, in the opinion of the speaker, the operation should be done. It was not best to wait for strong evidence of perforation or peritonitis. It was not satisfactory to wait till the pulse became rapid and weak and the respiration anxious. No one could name the signs of impending perforation. When spreading peritonitis was discoverable, the peritonitis had already spread. If the peritonitis had passed beyond the wall of an abscess, then the abscess had already ruptured. If marked distention of the abdomen was waited for, section might demonstrate septic paresis of the gut, a condition from which the speaker had never known a patient to recover. Such indications were conditions which it would be wiser to anticipate. It might be laid down as a rule, with few exceptions, that the indications of advancing disease could be clearly made out by the end of thirty-six hours, provided that the diagnosis had been made early and followed up by several careful examinations. Advancing disease with significant symptoms at this period offered the necessary indications for operation. The speaker then more minutely considered the various symptoms, both subtle and pronounced, which should be observed by physician and surgeon, as bearing upon the important question of operative interference.

Dr. W. W. Keen, of Philadelphia, continued the discussion of the foregoing question under five heads: 1. Appendicitis of a mild form without formation of abscess and terminating in resolution. 2. Perforative appendicitis followed by general peritonitis. This class he divided into severe, early, fulminating peritonitis, and an apparently mild peritonitis suddenly bursting out into general peritonitis from perforation of the appendix or rupture of an abscess. 3. Cases of abscess formation in which evacuation of the pus was effected either by operation, external rupture, or rupture into a hollow viscus. In these cases resolution or death usually took place in from two to four weeks. 4. Abscess formation took place slowly, the chronicity continuing for weeks or months or even a year before discharge took place. 5. Cases of recurrent appendicitis. The speaker held the opinion that of the milder forms examination would demonstrate that about one third of all adults had been affected by one or more attacks. The position taken by Dr. Keen was substantially that of the previous speaker—that conservative measures were admissible only up to a certain point, beyond which operative procedures offered most encouraging results, the prospects diminishing in proportion to the delay.

Dr. L. A. Stimson, of New York, in considering the technique of operations for the relief of appendicitis, divided these into two groups—those in which the general peritoneal cavity was opened with the intention of removing the appendix, and those in which the interference was limited to the evacuation of the abscess without exposure of the general cavity. For the first he recommended a lateral incision along the border of the right rectus. In the search for the appendix the anterior longitudinal bundle of unstriped muscle of the colon was a guide, for it ran directly to the appendix. To secure the stump of the appendix, he preferred a stout catgut ligature to unfolding and suturing the end. He urged the employment of a drainage-tube and an abundant packing of iodoform gauze whenever pus was found, and there had been prolonged exposure and handling of the intestines. He thought the use of these made it safe to empty and drain through the incision abscesses that were not adherent to the anterior abdominal wall. He did not advocate free irrigation of the general peritoneal cavity, as he considered it inefficient for disinfection and possibly harmful. For the second class of operations he recommended the usual oblique incision, parallel to the upper part of Poupart's ligament, opening directly into the abscess if it were adherent in the line of the incision, or passing backward between the peritonæum and the iliac fascia to reach the abscess from behind near the base of the appendix if it was small and not adherent in front. Abscesses deep in the pelvis could be operated upon through the anterior wall of the rectum by guiding the knife on the finger after stretching the sphincter.

Dr. Robert F. Weir, of New York, gave his conclusions as to the propriety of and the indications for resection of the appendix during the quiescent stage of chronic relapsing appendicitis. A year ago he had expressed the opinion that when the recurrent attacks of appendical inflammation were so frequent as to impair the patient's usefulness in life it was proper to run the risk of a laparotomy for relief, but that this measure might be delayed until an acute attack was in progress. Careful deductions made from twenty-four cases had induced him to concur in the opinion that in the absence of definite contra-indications intermediate laparotomy might be performed in cases where the patients were debarred from the enjoyment of life or the ability to earn a living. He was led to indorse this view from the uncertainty of attaining a proper discrimination in diagnosis, from the slight mortality in the quiescent stage, and the usually uniform good results which were obtained.

Dr. Albert Van Derveer, of Albany, considered the relation of the physician and surgeon in the care of cases of appendicitis. He thought that the care of such cases, so far as the physician was concerned, consisted in an early recognition of the disease, and that then, in view of the present success of abdominal surgery in these cases, it became his duty promptly to share the anxiety of the case with the operating surgeon. There existed no longer any excuse for a physician in full practice who pleaded ignorance of "the McBurney point." Upon the surgeon, after being called into consultation, there would rest much of the subsequent responsibility, though both physician and surgeon should associate in watching the case. If the care of appendicitis could be upon the basis thus suggested, fewer cases would come to the operating table in a septic condition seeking the surgeon's aid only as a forlorn hope.

Dr. Francis Bacon, of New Haven, said that the expectant plan which he had so far adopted might be regarded by some as unjustifiable temerity. He narrated the history of a case in which he had operated with cocaine anæsthesia, and in which an interesting point had been observed. When the appendix was exposed, and during a moment of sensitiveness, handling of the organ had caused the patient to complain of pain in the region of the umbilicus.

Pelvic Inflammation in Women.—This formed the subject of a series of papers and discussions.

Dr. A. F. Currier, of New York, introduced the subject. He said that the practical points which were to be explained were whether pelvic inflammations in women were due to traumatism or infection, or both. Also, what was the influence of parturition, gonorrhœa, syphilis, surgical injuries to the pelvic structures, the congestion of menstruation, retained secretions within the uterus or vagina, and solid and cystic new growths. Blood and lymph vessels and glands, nerves, muscular and cellular tissue, serous and mucous membrane, were all present in the pelvis, and were all susceptible of inflammatory processes. The uterine appendages might undergo varying degrees of inflammation and degeneration. As to the methods of dealing with the various morbid processes, he would leave that part of the discussion to the gentlemen who followed him.

Dr. W. Gill Wylie, of New York, in dealing with the question of the pathology of inflammation of the uterine appendages and tissues around the uterus, said that when in a state of acute inflammation it was very difficult to make a differential diagnosis as to the location of the inflammation in many cases.

During the acute stage of septic poisoning after labor or abortion there was inflammation of the veins and lymphatics, but phlegmon was rarely formed in the cellular tissue. The poison might extend in the cellular tissue, and an acute cellulitis kill the patient, but such a condition as a chronic cellulitis the speaker had never seen. When removing diseased Falloppian tubes and ovaries during the acute stage of the formation of a pelvic abscess he had found the connective tissue of the broad ligament œdematous and thickened. Here the real disease was in the tube and ovary, and the connective tissue was only affected by continuity, for, when the tube and ovary were removed, the œdema in the surrounding tissue would soon disappear.

In over four hundred laparotomies done for the removal of diseased tubes and ovaries, the great majority being typical cases of so-called cellulitis, the speaker had not found one case which could be fairly termed cellulitis. Invariably the abscess had started in or about the Falloppian tube or ovary within the peritonæum.

Dr. J. H. Raymond, of Brooklyn, thought that pelvic cellulitis, while not frequently met with apart from associated inflammatory conditions, certainly did at times occur. It might result from traumatism, ovarian apoplexy, or by infection from the uterus. If resolution did not take place, pus might form, find an outlet, and recovery take place. The second class of cases were complicated with pelvic peritonitis resulting from a variety of causes, and a third class included salpingitis. Ovaritis constituted another phase of pelvic inflammation. Where any of these forms of inflammation underwent resolution without suppuration the possibility of subsequent trouble from adhesion would be minimized. The presence of pus was an indication for evacuation by means of the knife.

The Treatment of Pelvic Inflammation in Women.—Dr. L. S. McMurtry, of Louisville, read a paper on this subject. He thought pelvic cellulitis so rare a condition as to be practically excluded from a consideration of operative treatment in women. Pelvic peritonitis, however, was of such common occurrence, so recurrent, and so dangerous in its sequelæ to comfort, health, and life, that it was the most important of the affections encountered in gynecic practice. After reviewing the various forms of inflammation which might be relieved by such palliative measures as warm sitz-baths, rest, the hot douche, massage, counter-irritation, saline purgatives, and so on, he said that when a patient presented the history of recurrent attacks of pelvic inflammation it was at once indicative of leaky tubes. The only treatment which would cure was removal of the diseased appendages by abdominal section. It was folly to wait for the advent of rupture and general peritonitis before making a decision. It was amazing to see with what reluctance the profession had come to accept this great advance in pelvic surgery. Even now—when masses of suppurating tubes and ovaries were dug out of the pelvis in the midst of virulent peritonitis, and the patients were saved from a hitherto fatal condition—many eminent members of the profession stigmatized the procedure as castration of women. So far as he was aware, surgeons operated upon the female pelvis for local disease only, and never with the idea of effecting a cure of reflex disturbances and obscure symptoms.

An Inquiry into our Present Knowledge of the Progress of Myomatous Tumors.—This was the title of a paper by Dr. J. F. W. Ross, of Toronto. As a summary of a very elaborate survey of the whole subject covered by the title of the paper, the speaker said that the fallacies which existed in respect to the treatment of this class of growths were due, first, to the slow development of the tumor and the difficulty in appreciating the changes in size. Second, to the fact that when they reached a certain size many of them had no tendency to increase, even if no treatment was given. Third, to the fact that after the climacteric period many of the growths remained inert or underwent retrogression, and also that many patients did not come for treatment until this period was approaching. The supposed effects of treatment, continued, as it usually did, over a long period of time, might only be coincident with the natural processes of cure. The speaker's idea of what such treatment should be was as follows: If a patient was not near the menopause, was suffering in her health, and was willing to submit to operation, he advised the removal of her ovaries and tubes. If the diagnosis of the case was not clear and a pelvic mass was found simulating a myoma, he urged operation and cure. If the patient would not submit to salpingo-oophorectomy and had not an intra-uterine myoma that could be removed *per vaginam*, and was suffering from hæmorrhage, the interior of the uterus should be treated with hæmostatics. To this class of remedies belonged the actual cautery and the positive electrode as well as the older remedies. If the tumor continued to grow, notwithstanding these procedures, and gave rise to uncontrollable hæmorrhage, sloughing, peritonitis, and septic symptoms, causing dangerous pressure on pelvic or thoracic viscera, abdominal hysterectomy, myotomy, or enucleation from below should be performed. If the patient refused to have this done, galvano-puncture might be resorted to. It required very little irritation to produce alterations in the nutrition of these growths and cause suppuration or a retrogression. The speaker was a firm believer in the efficacy of galvano-puncture in many cases, but he did not believe that either it or intra-uterine electrolysis would cure or relieve permanently anything like the number of cases accorded them by the supporters of these methods, or that these methods would be accompanied by the low death-rate claimed. After abdominal galvano-puncture and after many cases of vaginal galvano-puncture, hysterotomy became an almost impossible operation owing to the presence of adhesions. Electricity was fast losing its fashionable favor, its clouds of mysticism had rolled away, and we were now able to gain a more accurate view of its real value in the treatment of myomata. The battery was walking in the footsteps of the spray, and in the future, though not fulfilling all our expectations, might remain of use to the profession in a variety of ways.

Dr. W. Gill Wylie said that electricity, except as an agent to destroy the tissues of the tumors, was practically of no influence. If used to stop hæmorrhage, it must be in such strengths as to act as a cautery. It was important to recognize the great objection of any form of treatment which would leave a scar in the uterine tissues and which would be liable to close up the glands and follicles, thus interfering with normal secretion and setting up a train of reflex symptoms which might turn out to be worse than the disease for which the treatment was instituted. He considered the use of electricity as dangerous as that of operative procedure. If the tubes and ovaries could be removed completely and the tumor was no larger than a child's head, success was almost sure to follow operation. Increased size and the presence of adhesions augmented the difficulties. Dr. Ross had advised dealing with intra-uterine tumors by electricity. He must oppose his view and state his conviction that if risks must be run, it was better to incur those of hysterectomy.

Dr. Currier believed that there existed cases in which electricity could be employed as the most advantageous therapeutic agent at the time. He did not feel that it was going out of use with the spray. He thought that they were wrong to throw aside an agent which, even if only for a time, afforded relief, and there was no doubt this could be done in many cases by the application of the positive pole within the uterus.

(*To be concluded.*)

Book Notices.

Recherches cliniques et thérapeutiques sur l'épilepsie, l'hystérie et l'idiotie. Compte rendu du service des enfans idiots, épileptiques et arriérés de Bicêtre pendant l'année 1889. Par Bourneville, médecin de Bicêtre, Sollier, conservateur du musée de Bicêtre, et A. Pilliet, ancien interne du service. Volume X, avec 22 figures dans le texte et une planche chromo-lithographique. Paris: Lecrosnier et Babé, 1890. Pp. lvi–188. [Publications du *Progrès médical.*]

The charitable institutions of a nation, its care for its helpless, have ever, rightfully, been supposed to be indicative of its civilization, and any book that will enlighten us on these points will necessarily be of great interest. Of such a nature is the *Compte rendu* of the care taken of the idiotic, epileptic, and intellectually backward children of the Bicêtre Hospital. From it we learn of the successful efforts made to develop such faculties as are still retained, so that the child, by instruction in a trade or in simple manual employment, such as boot-blacking, may either entirely or in part be made self-sustaining.

That the purely scientific aspect of these pathological questions is not lost sight of we have ample proof in M. Bourneville's interesting article on Myxœdematous Idiocy, Bourneville and Sollier's on A Family of Hystero-epileptics, and Pilliet's on The Histological Lesions of the Gray Nervous Substance.

Electricity in the Diseases of Women, with Special Reference to the Application of Strong Currents. By G. Betton Massey, M. D., Physician to the Gynæcological Department of Howard Hospital, etc. Second Edition, revised and enlarged. Philadelphia and London: F. A. Davis, 1890. Pp. xii-240. [Price, $1.50.]

This is a concise exposition of the laws of electricity as applied to gynæcology, presented in a concrete and practical shape by means of a series of demonstrations of the physiological and mechanical effects of the various currents and of the two poles upon the animal tissues. Foreseeing the difficulties likely to present themselves to the practitioner, the author enters into such details as will practically obviate them.

The Pulse. By W. H. Broadbent, M. D., Fellow of the Royal College of Physicians; Senior Physician to and Lecturer on Clinical Medicine in the Medical School of St. Mary's Hospital, etc. Illustrated with Fifty Sphygmographic Tracings. Philadelphia: Lea Brothers & Co., 1890. Pp. vi–312. [Price, $1.75.]

The author has produced a highly suggestive little book and one that should be in the hands of every practitioner, for not only is the pulse studied in a way that renders the accuracy of its appreciation by palpation comparable with that given by the sphygmograph, but the final causes of all circulatory changes, as well as their ultimate effects, are also traced with the skill of a consummate clinician.

BOOKS AND PAMPHLETS RECEIVED.

Examination of Water for Sanitary and Technical Purposes. By Henry Leffmann, M. D., Ph. D., Professor of Chemistry in the Woman's Medical College of Pennsylvania, etc., and William Beam, M. A., Demonstrator of Chemistry in the Pennsylvania College of Dental Surgery, etc. Second Edition, revised and enlarged, with Illustrations. Philadelphia: P. Blakiston, Son, & Co., 1891. Pp. vii–9 to 130.

Auscultation and Percussion. By Frederick C. Shattuck, M. D., Professor of Clinical Medicine in Harvard University, etc. Detroit: George S. Davis, 1890. Pp. viii–121. [Physicians' Leisure Library.]

De l'idée de persécution dans la mélancolie et de délire des persécutions. Par Blin (Emmery-Édouard-Eugéne), Docteur en médecine de la Faculté de Paris, etc. Paris: E. Lecrosnier et Babé, 1890. Pp. 109. [Publications du *Progrès médical.*]

L'Asepsie et l'antisepsie à l'Hôpital Bichat, service de chirurgie de M. le Docteur Felix Terrier (1883–1889). Par Marcel Baudouin, ancien interne à l'Hôpital Bichat. Préface et introduction de M. Felix Terrier, professeur agrégé à la Faculté de médecine. Avec 10 figures dans le texte et 4 photogravures hors texte. Paris: E. Lecrosnier et Babé, 1890. Pp. iii–214. [Publications du *Progrès médical.*]

Mechanical Obstruction in Diseases of the Uterus. By George F. Hulbert, M. D., of St. Louis, Mo. [Reprinted from the *Medical News.*]

A Study of the Physiological Action of Kava-Kava. By David Cerna, M. D., Ph. D., Philadelphia, Pa. [Reprinted from the *Therapeutic Gazette.*]

Transactions of the Medical Society of the State of West Virginia. Twenty-third Annual Session, held at Wheeling, W. Va., June 11, 12, and 13, 1890.

Cephalæmatoma Verum Externum. By Howard A. Kelly, M. D., Baltimore. [Reprinted from Volume XV, *Transactions of the American Gynæcological Society.*]

Sulla ghiandola tiroide. Temperatura dei cani dopo l'estirpazione di quest' organo. Ricerche del Prof. G. B. Ughetti. [Estratto dalla *Riforma medica.*]

Extraction d'une aiguille à coudre, localisée par le procédé de l'aimantation. Par le Dr. E. Kummer, Genève. [Extrait de la *Revue médicale de la Suisse romande.*]

State of New York, State Commission in Lunacy. Second Annual Report, 1890.

Laws of the State of Michigan relating to the Public Health, in Force in the Year 1890. Compiled under the Direction of the Secretary of the State Board of Health.

The Breathing Movements in Relation to Voice Production. By G. Hudson Makuen, M. D., Philadelphia. [Reprinted from *Education.*]

Reports on the Progress of Medicine.

GYNÆCOLOGY.

By ANDREW F. CURRIER, M. D.

Drainage after Abdominal Section (E. W. Cushing, *Brit. Med. Jour.*, Aug 16, 1890).—The following were believed to be the indications for drainage:

1. The presence of freshly separated adhesions or of voluminous pedicles, or of rents and incisions in the pelvic peritonæum requiring many sutures—in a word, any condition which might lead to the oozing of bloody fluid.

2. The escape of pus, the contents of cysts, much blood, urine, or fæcal matter into the abdominal cavity. In such cases there should be irrigation with hot water and drainage.

3. Perforation or incision of the intestines or bladder during an operation, or a sloughy condition which foreboded a subsequent perforation.

4. The presence of masses of exudate or stiff capsules from which diseased structures have been enucleated, and which do not collapse but will permit of the accumulation of fluid.

5. Any condition, such as shock or weakness, requiring rapid termination of a difficult operation, the abdominal cavity containing much of the hot water which had been used for irrigation. There were no special contra-indications to drainage. Schröder represented the Continental authorities who opposed drainage in favor of antiseptics. Tait was a strong advocate of drainage, especially in women over sixty and in young women who were much exhausted.

On Total Extirpation of the Uterus by the Vagina (J. Williams, *Brit. Med. Jour.*, Aug. 23, 1890).—Not all cases of cancer of the uterus are suitable for extirpation of the organ. The operation is too grave and mutilating in character to be undertaken unless a radical cure is intended. The operation is out of the question if the disease has invaded structures contiguous to the uterus. This consideration necessarily excludes most cases of cancer of the uterus from radical treatment, since they are usually not seen by the surgeon until such invasion has taken place. The disease may originate in the body of the uterus, the cervix, or the vaginal portion of the cervix, the history and character of a given case differing according to the part attacked. The operation is indicated for cancer of the body, since it is the only way by which the disease can be removed. Mere mobility of the organ is not alone the symptom which would indicate the propriety of extirpation. As to adhesions in connection with the uterus, it is very difficult to differentiate those which are due to inflammation and those which are due to cancer. As to size, the organ may be little larger than normal, or it may be large enough to extend nearly to the umbilicus. If very large, of course it can not be removed *per vaginam*.

Opinions differ widely as to indications for operation in cancer of the cervix and the vaginal portion. The propriety of operating in such cases is regulated by the anatomical and clinical history of cancer in these parts. Anatomical research must be conducted under two conditions: 1. When the disease has been allowed to run its course without surgical interference. 2. When the minor operation, supravaginal amputation, with or without the hot iron, has been resorted to.

The starting point of cancer of the cervix is usually the deeper portion of the glands, but it may originate in the upper half of the cervix near the os internum, or in the lower half near the os externum, the latter being the more frequent situation. It may begin in the superficial epithelium lining the cervical canal, or in the bottom of the spaces between the papillæ. Whether the disease starts at the inner or outer orifice, its tendency is to involve the whole thickness and length of the cervix, and to pass through to the circumcervical tissues, delaying for a time to pass beyond the os internum. When it begins near the os externum it spreads outward and upward, sparing the squamous epithelium covering the vaginal portion, but hastening into the connective tissue around the cervix. When it begins near the os internum it tends to grow outward and downward, but not upward. The connective tissue is invaded before the body is attacked, and before the epithelium covering the vaginal portion is destroyed and ulceration has taken place. In the later stages of the disease extension into the body takes place directly, but this extension is preceded by indirect extension to the outer surface of the body (of the uterus) through the medium of the contiguous connective tissue. The sides of the uterine body are affected earlier than its interior, and to a higher point, but there are exceptional cases in which the opposite occurs. In some cases there are cancerous nodules in the inner superficial layers of the uterine body, together with an early stage of cancer of the cervix. They may be secondary deposits, though this is improbable, or they may be independent new cancerous formations.

After supravaginal amputation of the cervix, recurrence usually takes place within a limited time, and not in the stump of the uterus, but in the connective tissue. It grows rapidly, spreading upward into the broad ligaments and downward into the vesico-vaginal and recto-vaginal septa. The stump of the uterus may be affected last of all. If the uterus has been extirpated, recurrence will take place in the parametric tissue, though it may develop in the bones, glands, and other viscera. Cancer of the vaginal portion begins in the squamous epithelium forming its covering, and tends to spread superficially toward the vaginal walls, and thence toward the vulva. It spreads deeply in its later stages, and occasionally sends deep processes inward in its early history, sloughs and cavities resulting. The clinical investigation concerns the frequency of recurrence, the period of time between the operative procedures and the recurrence, and the comparative danger of the radical and the palliative operations. Inquiry should also be made as to the value and permanency of the results after each operation. Present statistics are insufficient for forming a conclusion as to relative superiority, owing to the difficulty of following cases for a sufficiently long period after operation, and the shortness of the period within which the operation has been practiced. The danger of total extirpation has been reduced to a minimum among German gynæcologists, the mortality being as low as five per cent. with some of them. Statistics do not tell us whether this mortality exceeds that of supravaginal amputation of the cervix when performed with equal care. The question as to the effects of the different degrees of mutilation caused by the two operations has not yet been sufficiently investigated. It must be remembered that one may hold certain views in regard to the total extirpation of the uterus and yet be unable to carry them out. The diagnosis of the disease in its early stages is very difficult, examination of an excised portion of tissue with the microscope not always yielding the necessary information. If the tissues above the vagina are infiltrated, the diagnosis can be made, but an operation is then not likely to be a radical one; on the other hand, mobility of the organ does not necessarily indicate an operation. In cancer of the body it will usually be impossible to recognize an early invasion of the parametrium. The aim should be to recognize the disease while it is still limited to the uterine tissue. Examination should be made with the aid of anæsthesia, both by vagina and rectum, to decide this point, and also to discover any enlargement of the glands of the pelvis. The latter may be so remote from the uterus that it would be impossible to discover them, their presence not being manifest until months afterward. The question is also pertinent whether there can be any hope of radical cure by an operation when the whole thickness of the uterine wall is involved, or any part of it in the cervix, or the area of attachment of the broad ligaments.

The foregoing paper was read before the Section in Midwifery and Gynæcology of the Tenth International Medical Congress, and the following is a brief summary of the discussion:

Schauta disapproved of amputation of the cervix. In seventeen cases he had found that the body of the uterus was involved, though the cervix was the primary seat of the disease. He favored total extirpation. Pozzi preferred the radical operation, and thought it should sometimes be performed when the disease had passed beyond the limits of the uterus. The uterus should not be turned and the fundus drawn out first in the course of the operation, as that might involve infection of the peritonæum by the diseased cervix. He also preferred ligature of the vessels rather than the use of forcipressure. Landau preferred forcipressure, which permitted of the more extensive removal of diseased tissue. Sajaitsky gave the history of the operation in Russia. Extirpation of the uterus was not a dangerous operation when antiseptics were used. The methods of Schröder, Fritsch, and Martin were to be preferred. Injury to the bladder and ureters could always be avoided.

Martin approved of complete extirpation, not only for cancer, but for all other diseases which prevented one from gaining a livelihood. The particular method of operation was not material. He was in the habit of closing the peritoneal wound, using no drainage-tube.

Kaltenbach closed the peritoneal wound. No one could say when or where the disease would recur.

Czerny believed that vaginal extirpation would be practiced until cancer could be cured by medical treatment. If the parametrium was infiltrated, the sacral method of operating should be used.

Péan advocated forcipressure in the vaginal operation to the exclusion of ligatures.

Diagnostic and Therapeutic Experience concerning Hydrosalpinx and Pyosalpinx (Landau, *Ctrlbl. f. Gyn.*, August 23, 1890).

1. Tumors of the Falloppian tubes are much more frequent than was formerly admitted, or is even now admitted by many. They are frequently mistaken for parametritis, perimetritis, metritis, and solid or cystic tumors of the uterus or ovaries.

2. These tumors are actually more frequent than they used to be. As causes may be mentioned not only gonorrhœa, infection during or after abortion or parturition, but also too much interference by the gynæcologist, consisting in manipulations of the cervix, intra-uterine injections, curetting, and cauterization. Infection may take place even though the gynæcologist's treatment has been thoroughly proper, occurring perhaps in the course of the healing process, just as epididymitis may follow injections of the urethra.

3. Our diagnostic knowledge has been derived from the practice of abdominal section and improved methods of examination.

4. The ordinary directions for ascertaining the shape, size, and mobility of the tubes are seldom available. The clinical history may show nothing that is characteristic.

5. Tubal colic is a sign which may be of service.

6. There are two useful signs for determining hydrosalpinx; one is the characteristic location, the other a feeling which suggests an air-cushion in the palpation of the tube and uterus.

7. These signs are not available if the uterus is fixed, if the volume of fluid in the tube is small, and if its walls are thickened.

8. If palpation yields a sensation comparable to a feeling of feathers it may be considered pathognomonic of hydrosalpinx. It enables one to exclude other tumors at the sides of and posterior to the uterus.

9. Fluctuation may not be appreciable in a hydrosalpinx, owing to the hardness of the sac.

10. It is not always possible to determine whether the hydrosalpinx involves one or both tubes until the sac is opened. The tubes may be so stretched or conglomerated behind the uterus as to suggest only a single organ.

11. There is no value in the advice to follow with gentle touch the course of the tube in making a diagnosis of hydrosalpinx.

12. The diagnosis may be completed in some cases by expressing some of the contents of the tube through the uterus into the vagina.

13. Pyosalpinx is usually double. If it is single, a hydrosalpinx will usually be found on the other side.

14. The pyosalpinx may have the shape of a coil of intestine, of a sausage, etc.

15. There is no soft, feathery feeling as in hydrosalpinx, the walls being thickened and the adhesions removing any perceptible condition of elasticity or contractility.

16. The distinction between uterine or ovarian tumor and pyosalpinx is difficult in most cases.

17. If the ovaries can be felt by the side of the tumors the diagnosis will vary between pyosalpinx and fibroid of the uterus. If there are tubo-ovarian abscesses, abscesses in the broad ligament or in the ovary, a diagnosis can not be made by palpation. The distinction between hydrosalpinx or pyosalpinx and tubal pregnancy is not difficult if the customary signs of pregnancy are present. Ectopic gestation in a horn of a uterus bicornis may be recognized by the sharp location of the horn. In pregnancy in a horn of a uterus bicornis unicollis or a uterus septus bicollis the development of the impregnated portion anteriorly may suffice for a diagnosis. Hæmatometra in the rudimentary horn of a uterus bicornis may be recognized by the pains which recur at the menstrual periods and also by the hæmorrhage at such times. The consistence of an impregnated tube is characteristic and excludes pyosalpinx. The former is soft, succulent, and changeable in character owing to the contractions which are excited by the examining hand Effusions of blood, exudates, and abscesses are without definite shape and diffuse. Myomata can not be distinguished from pyosalpinx by palpation.

18. If a diagnosis by palpation is impossible on account of very fat abdominal walls or very tense abdominal muscles, puncture of the mass may solve the difficulty.

19. Puncture may be made through the vagina or through the abdominal walls.

20. Puncture will enable one to say whether a tumor is solid or contains fluid.

21. If fluid is obtained, the macroscopic appearance will vary according as the tumor is a colloid, dermoid, or fibro-cyst, an hæmatocele, etc. Boiling the fluid will enable one to determine as to the presence of echinococcus and parovarian cysts. The naked eye will enable one to decide as to the presence of pus in the fluid, and the volume of albumin or chlorides will decide as to the inflammatory or dropsical condition of the tube. The microscope will assist by showing the hooklets of echinococcus, crystals of cholesterin or hæmatoidin, pus-corpuscles, etc.

22. Puncture will also enable one to decide as to this or that method of treatment.

Treatment.—1. Heretofore—that is, in the past—tubal tumors have seldom been recognized in the living, owing to deficient knowledge of diagnostic symptoms and defective methods of examination. Even if recognized they were not removed, owing to imperfect methods of operation.

2. Now the rule is to remove all abdominal tumors, and the good results which have been obtained have tended to increase our knowledge of tubal tumors.

3. The diagnosis of a tubal tumor does not yet imply salpingectomy and castration, as the discovery of an ovarian tumor or cancer would. There should be clear indications as to the necessity for an operation.

4. Hydrosalpinx may be cured spontaneously.

5. Hydrosalpinx may be treated by mechanical or surgical means.

6. The former will consist in relieving a displaced uterus and so correcting the position of the tube. This may lead to the evacuation of the tubal tumor through the uterus. Or massage may be used to advantage in some cases associated with baths and irrigation *per vaginam.* It is dangerous to treat this condition by sounding the tube, more particularly if a stiff sound is used, and only this form would be efficient. Dilatation of the uterus is likewise not free from danger; it may result in producing a pyosalpinx.

7. Surgical means are indicated when mechanical ones fail, and they should aim to treat the tube and ovary as far as possible by conservative measures. Puncture may be employed through the vagina with antiseptic precautions, the tumor being pushed downward as far as possible through the abdominal walls. Care must, of course, be taken to avoid injuring the abdominal viscera. The puncture may be simply exploratory, it may be followed by irrigation of the cavity with a three-per-cent. solution of carbolic acid, or it may be followed by an injection of iodine into the sac. A cannula should not be left in the sac to excite suppuration. If the tumor is not perfectly accessible through the vaginal vault, it should not be punctured. The operation should not be performed through the abdominal wall. Incision may be practiced through the vagina for certain cases of hydrosalpinx if puncture does not suffice.

8. Puncture has been performed in many instances by the author, and never with bad results. Errors of diagnosis, before puncture, were revealed when the operation was performed in cases of ovarian, echinococcal, and parovarian cysts, and in tubal pregnancies.

9. In cases of pyosalpinx it may be remembered that a spontaneous cure sometimes takes place, that radical treatment is not always demanded, and that the course of many cases is without prominent symptoms.

10. Mechanical treatment is not suitable for pyosalpinx, neither is puncture, in so far as the latter is intended as a curative measure.

11. Incision and excision alone are indicated, the former for single, the latter for multiple pus sacs.

12. Incision may be made through the vagina, the abdominal wall, or both, according to the conditions.

13. Incision may be made through the vaginal vault without the aid of a speculum or dragging forward of the uterus.

14. If the pyosalpinx is adherent at the vaginal vault, the peritonæum need not be opened. If there is a tumor in each side of the pelvis, an abdominal operation is to be preferred.

15. Should there be much hæmorrhage, it may usually be checked with torsion forceps.

16. A T drainage-tube should be left in the sac for eight or ten days, and iodoform gauze may be packed around it for twenty-four hours should the hæmorrhage be obstinate. Vaginal douches should be given daily, and the patient will usually be able to sit up in eight days.

17. The incision will usually heal readily. If there is retention of the sac contents, the wound should be dilated with the finger.

18. The immediate and remote results of this operation are, as a rule, very satisfactory.

19. If the pus sacs are near the abdominal wall, the incision is made through the latter, and if the sacs are not adherent, they are evacuated and stitched to the abdominal wall.

20. The proper site for the abdominal incision will depend upon the position and size of the sac and its relation to the intestine.

21. A counter-opening through the vagina for drainage will only be required in case of large tumors.

22. In exceptional cases in which attachments to intestines prevent one from bringing the tumor forward and stretching the sac to the abdominal wall, an abdominal incision may first be made, then an incision through the vaginal vault, then the tumor may be steadied with the hand in Douglas's space, while with the other an opening may be made

in it through the vagina. Drainage in such cases should be *per vaginam.*

23. In such cases as the foregoing, irrigation is generally not indicated.

24. If an operation is indicated rather for the relief of extensive adhesions than to remove accumulations of pus, excision alone should be practiced.

25. If the ovaries are not diseased they should not be removed, the diseased tubes only being excised.

26. As a rule, however, the ovaries and tubes must be removed simultaneously.

27. These operations may prove very difficult; Trendelenburg's posture may facilitate them.

28. In removing the diseased tubes through an abdominal incision, their contents are frequently diffused in the abdominal cavity. This necessitates the most careful and thorough toilet possible of the cavity.

29. Resection of the tube and attachment to the abdominal wall has been limited, in the author's experience, to very large tumors or to those which were irremovably joined to the intestine.

30. Resection of a diseased portion of a tube, and adjustment of the remainder so as to favor subsequent impregnation—as practiced by Schröder, Martin, and Skutsch—offers also the danger of subsequent infection through the uterus.

31. The results of these operations upon the tubes have been good and permanent in the great majority of cases; but in some cases there has been trouble from ventral hernia, or from nervous, psychical, or trophic changes which have made the patients worse than they were before the operation.

The Origin of Epithelial Tumors of the Ovary (Steffeck, *Ztsch. f. Geb. u. Gyn.*, xix, 283).—The subject is considered and investigated by the author from two standpoints, one of which has reference to the possibility of tumor development from germinal epithelium (*Keimepithel*), and the other from the epithelium of the follicles. His conclusions are:

1. Up to the present time imbedding processes in the germinal epithelium have been observed only in connection with tumors, and never in normal mature ovaries.

2. In the carcinomatous degeneration of cystomata the germinal epithelium remains normal longer than the other structures.

3. The germinal epithelium tubes which have been studied by the author have not been due to an active process.

4. The follicles may form irregular cavities, lined with a single layer of epithelium.

5. The epithelium of the primary follicles and of mature follicles may form epithelial tubes, which are subsequently disintegrated and form new cysts.

6. The ovum is still demonstrable in the original beginnings of follicular degenerations.

The author concludes, further, that an epithelial ovarian tumor may readily arise from follicular epithelium, and from germinal epithelium also when epithelial tubes have developed from the same.

Discussion of the Methods of Electrical Treatment of Uterine Fibromyomata at the Paris Medical Society (*Société de médecine pratique*).—(Danion, *Jour. de méd.*, April 27, 1890.) The author disclaimed any desire to introduce acrimony into the discussion, which must necessarily involve certain personalities. His desire was to endeavor to clear up certain obscurities in connection with this subject which tended to bring discredit upon the entire subject of electrotherapy. The general opinion at present was that fibroid tumors of the uterus could only be cured by intra-uterine galvano-cauterization, or by galvano-puncture—high intensities of current being used in either case—this being the result of the teachings of Apostoli. To this opinion the author was opposed, and also to the method of treatment which Apostoli had advocated, since it involved difficulties of application and dangers which would check the development of electrotherapy in its application to uterine disease and to fibromyomata in particular. The author asserts that the intra-uterine action of electricity is useless; that galvano-caustic action is useless, with rare exceptions; and that galvano-puncture is always useless. Apostoli's method, which was based upon the converse of these assertions, was considered scientifically erroneous. The object of the intra-uterine action of electricity was evidently to destroy the mucous membrane, and produce salutary derivative effects through a central focus of action. But, if it was derivative action which was efficient, why should it not be obtained when other caustic agents were substituted for the galvano-cautery? Besides, even if there was a derivative action, it might not take effect just where one would choose to have it as the result of a galvano-puncture. The object of destroying the endometrium was evidently the production of a scar which would furnish an obstacle to hæmorrhage at all points where it would be likely to occur. It was formerly advised that galvano-puncture be made deeply; now the penetration to be made was so slight as to be of little importance if good symptomatic or anatomical effects were, as was supposed, the result of deep puncturing. Apostoli's present advice was to puncture when intra-uterine action was ineffective. As to central electrical action, the laws governing the diffusion of currents showed that the most remote points of a fibromatous mass in the uterus could be perfectly well reached from any point in or near the periphery of the mass, so that the introduction of an electrode along the entire extent of the uterine canal was not necessary.

This had suggested to the author the introduction of the electrode into the cervical canal alone; but in some cases this was found to be difficult or impossible. Out of these difficulties was developed the author's method, which he called the method of electrical tampon and of reversals of the current. With the intracervical electrode a current of 50 to 70 milliampères was used; with the electrical tampon (vaginal) a current of 120 to 130 milliampères was used without inconvenience to the patient. In all cases reversals of current were practiced, the zero point being first touched before sending the current in the opposite direction, to avoid shock. The results which this method had yielded were believed to be more rapid and complete than were attained by Apostoli's method. In the hospital service of Lucas-Championnière this method had been tried more than eight hundred times without a single accident.

This paper provoked a heated discussion, in which Apostoli and a number of those who had either worked with him or sent him their patients for treatment participated. The charges of danger and inutility associated with Apostoli's method were contested, and those who had sent their patients to him for treatment expressed their satisfaction at the results of such treatment.

Debate on the Present Position of Abdominal Surgery in the Medical Society of London, April 21, 1890 (*Brit. Med. Jour.*, April 26, 1890).—Mr. Lawson Tait was grateful for the opportunity of discussing this question (which was initiated by a paper from Mr. Meredith). He reiterated his opinion that it was not to the advocates of Listerism that the recognized importance of cleanliness in surgery was due, but rather to its opponents. He cared little for the germs that might be in the abdomen so long as he had plenty of water to wash them out. He objected to the American barbarism in the term laparotomy, which was entirely inexact as customarily used. Abdominal section was the proper term, unless one wished to imply a lumbar incision. He disagreed with the reader of the paper concerning the ovular theory of menstruation, and did not see how a minute portion of the organ which might be left after removal of the appendages—and that portion, too, strangulated by a ligature—could be responsible for the continuance of menstruation. His principle in regard to the removal of the appendages was directly opposed to Battey's, inasmuch as he recommended operation only for gross and palpable disease. It was difficult to furnish convincing evidence regarding the ultimate results of such operations; in fact, in many cases patients forbade the publication of the details. As to the statement that the occurrence of intraperitoneal hæmorrhage, made in some of his cases, originated from ruptured tubal gestation-sacs wanted confirmation, he could say that the proof of existing tubal pregnancy in all his cases was complete. Tying the broad ligaments stopped the hæmorrhage in all cases, and there was no other known cause for hæmorrhage with rupture of the Falloppian tubes but ectopic pregnancy. But in his cases placental villi were always found in the meshes of the muscular structure of the tubes. The presence or absence of a fœtus was of no consequence. As to the statement which was accredited to him that general surgeons should not do abdominal surgery, his statement was that abdominal operations would be more successfully done by men who devoted themselves entirely to them than by those who performed them casually. To argue against specialism was to argue against the wind. In reply to Mr. Treves's remark that the same rules of surgery and anatomy applied to all parts of the body, he would say that the conditions in abdominal surgery differed from those in any other part of the body, and hence required special rules.

Mr. Greig Smith, speaking as a surgeon to a general hospital, differed with Mr. Tait concerning the uselessness of the spray. He attributed the good results in the Bristol Royal Infirmary, in part at least, to its use. He thought it impossible to formulate any rule in regard to the treatment of the stump in hysterectomy. The intraperitoneal method was doubtless the ideal one, but it was often not adapted to the very cases in which the operation was most urgently called for. The extraperitoneal method would stand until some way could be devised of ridding the stump of uterine fiber. The wire clamp he considered of great utility. Drainage, sponging, and peritoneal irrigation he believed were carried to extremes, and should rarely be necessary. Purgatives were useful for temporary obstruction of the intestines, but not as a measure of routine practice. As to the treatment of impacted labor, the Cæsarean section, and not Porro's operation, should be the operation of election. To sweep away the reproductive organs was retrograde surgery, unless it was necessary to save life. The importance of after-treatment in abdominal surgery must not be forgotten. He believed that a great impetus had been given to general surgery by abdominal surgeons.

Dr. Elder believed that a large share of credit for present perfection in surgery was due to Lister, but surgical cleanliness was of admitted value with all. He believed in the value of specialists and special hospitals. He believed the use of the clamp was barbarous, tedious, and dangerous, and that it must soon yield to intraperitoneal methods of treatment. He believed that tumors of the appendages should be removed, whatever their contents might be, if it could be considered that they imperiled life. Early operations for serious tubal and ovarian disease would bring about more favorable results.

Dr. Malins thought that no operation in abdominal surgery was more unsatisfactory than the removal of ovaries and tubes for chronic inflammatory conditions. Many of the patients would get well without operation, and his experience of the results of the operation was very unfavorable. Pre-existing sexual troubles were often intensified, and domestic infelicity often resulted from the operation. If pus was present in the pelvis, it should be evacuated at all hazards, but he did not think that hæmatocele invariably called for abdominal section, for most patients with the latter would get well by themselves if let alone. It was questionable whether the abdomen should be opened for puerperal peritonitis or septicæmia; he knew of five cases which had been unsuccessful. Prompt intervention might give a patient a chance in some cases.

Mr. Reeves never used antiseptics, and approved of the use of opium, at least for the first night after an abdominal operation. For incipient peritonitis he favored the introduction of a long tube into the bowel to relieve the overdistention from flatus. Turpentine stupes were also beneficial. He did not favor the use of the clamp.

Dr. O'Callaghan believed that the after-treatment of cases of abdominal surgery was as important as the operation. He believed that opium was never admissible after such operations. He preferred the Porro operation to Cæsarean section as a surgical measure. In dry tubercular peritonitis he had experienced good results from abdominal section with removal of caseous masses.

Mr. Barker drew a distinction therapeutically and mechanically between dry and moist tubercular peritonitis, the latter being the more acute process, and also the more likely to be localized. In the dry form there was danger from the number and strength of the adhesions.

Mr. Alban Doran believed that abdominal surgery must always remain more or less distinct from the surgery of other parts of the body. It was through specialists that ovariotomy, oophorectomy, hysterectomy, and operations for ectopic gestation had been established as legitimate procedures. The special position of abdominal surgery depended upon anatomical conditions which never changed, a great serous membrane being opened, handled, and subjected to various harmful influences. Drainage of the peritonæum, for any cause, could do little or no harm if properly carried out. Cutting into a great serous cavity could never be the same as cutting into a joint, the anatomical, physiological, and pathological conditions differing widely; moreover, one could have a different degree of ability for the two classes of operations.

Mr. Knowsley Thornton referred to the influence of abdominal surgery in the past and present upon general surgery. The latter was much indebted to the former and to those pioneers who had courageously established it. If the principle of surgical cleanliness had been grasped earlier the results of ovariotomy would have been even more brilliant. The clamp for the pedicle of abdominal tumors was an imperfect instrument, but it gave better results than any intraperitoneal method. The great difficulty was to maintain asepsis for the stump of the abdominal tumor. He objected to covering the stump with peritonæum. In removing large tumors, the bladder should first be peeled away, the broad ligaments next being tied. He was not yet disposed to give up the use of opium after operations, with the exception of nephrectomies. He was more favorable to drainage than he used to be, but did not approve of flushing the cavity except in particular cases.

To Contributors and Correspondents.—*The attention of all who purpose favoring us with communications is respectfully called to the following:*

Authors of articles intended for publication under the head of "original contributions" are respectfully informed that, in accepting such articles, we always do so with the understanding that the following conditions are to be observed: (1) when a manuscript is sent to this journal, a similar manuscript or any abstract thereof must not be or have been sent to any other periodical, unless we are specially notified of the fact at the time the article is sent to us; (2) accepted articles are subject to the customary rules of editorial revision, and will be published as promptly as our other engagements will admit of—we can not engage to publish an article in any specified issue; (3) any conditions which an author wishes complied with must be distinctly stated in a communication accompanying the manuscript, and no new conditions can be considered after the manuscript has been put into the type-setters' hands. We are often constrained to decline articles which, although they may be creditable to their authors, are not suitable for publication in this journal, either because they are too long, or are loaded with tabular matter or prolix histories of cases, or deal with subjects of little interest to the medical profession at large. We can not enter into any correspondence concerning our reasons for declining an article.

All letters, whether intended for publication or not, must contain the writer's name and address, not necessarily for publication. No attention will be paid to anonymous communications. Hereafter, correspondents asking for information that we are capable of giving, and that can properly be given in this journal, will be answered by number, a private communication being previously sent to each correspondent informing him under what number the answer to his note is to be looked for. All communications not intended for publication under the author's name are treated as strictly confidential. We can not give advice to laymen as to particular cases or recommend individual practitioners.

Secretaries of medical societies will confer a favor by keeping us informed of the dates of their societies' regular meetings. Brief notifications of matters that are expected to come up at particular meetings will be inserted when they are received in time.

Newspapers and other publications containing matter which the person sending them desires to bring to our notice should be marked. Members of the profession who send us information of matters of interest to our readers will be considered as doing them and us a favor, and, if the space at our command admits of it, we shall take pleasure in inserting the substance of such communications.

All communications intended for the editor should be addressed to him in care of the publishers.

All communications relating to the business of the journal should be addressed to the publishers.

LIBRARY
OF THE
UNIVERSITY OF ILLINOIS

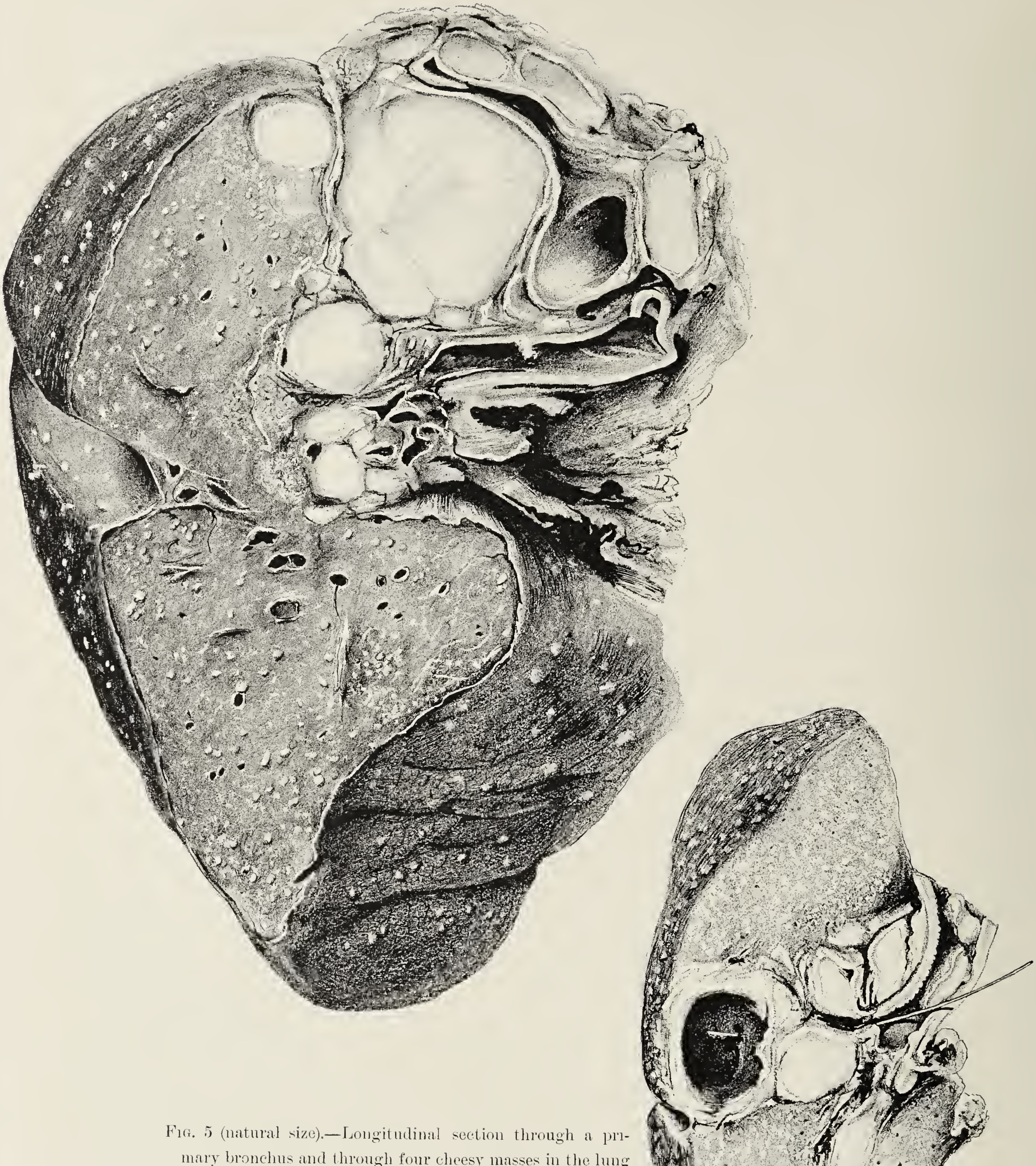


Fig. 5 (natural size).—Longitudinal section through a primary bronchus and through four cheesy masses in the lung at its root; a cavity at the periphery. The bristle passes through the primary bronchus, is lost sight of in a bronchial branch, and appears again in the cavity, with which the bronchus communicates. The walls of the cavity are much thickened. The light spots in this lung are not miliary tubercles, but infiltrated terminal bronchi. They are faithfully represented by the artist, and are seen to be uniformly distributed and, on the cut surface, to be branching.

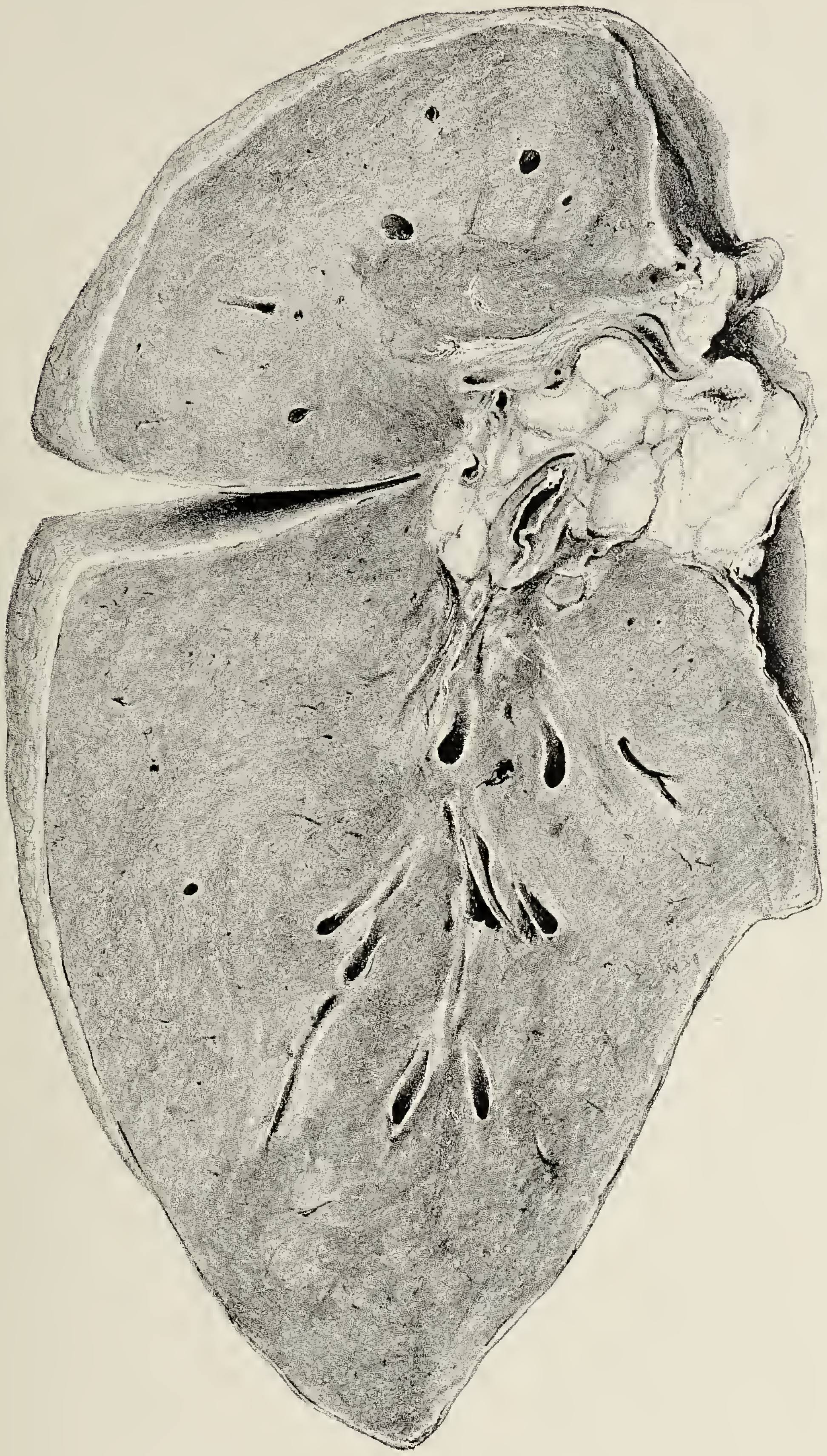


Fig. 1
at it
chia
mal.

Fig. 3 (natural size).
nodes grouped abo
root of the lung, a
Two bronchial no
centers, and below
ing a chalk mass.

Fig. 2 (natural size).—Section through cheesy bronchial nodes at the root of the lung, also through adjacent cheesy masses; the lung otherwise normal.

Fig. 4 (natura
in the lung,
at the perip
with dense,

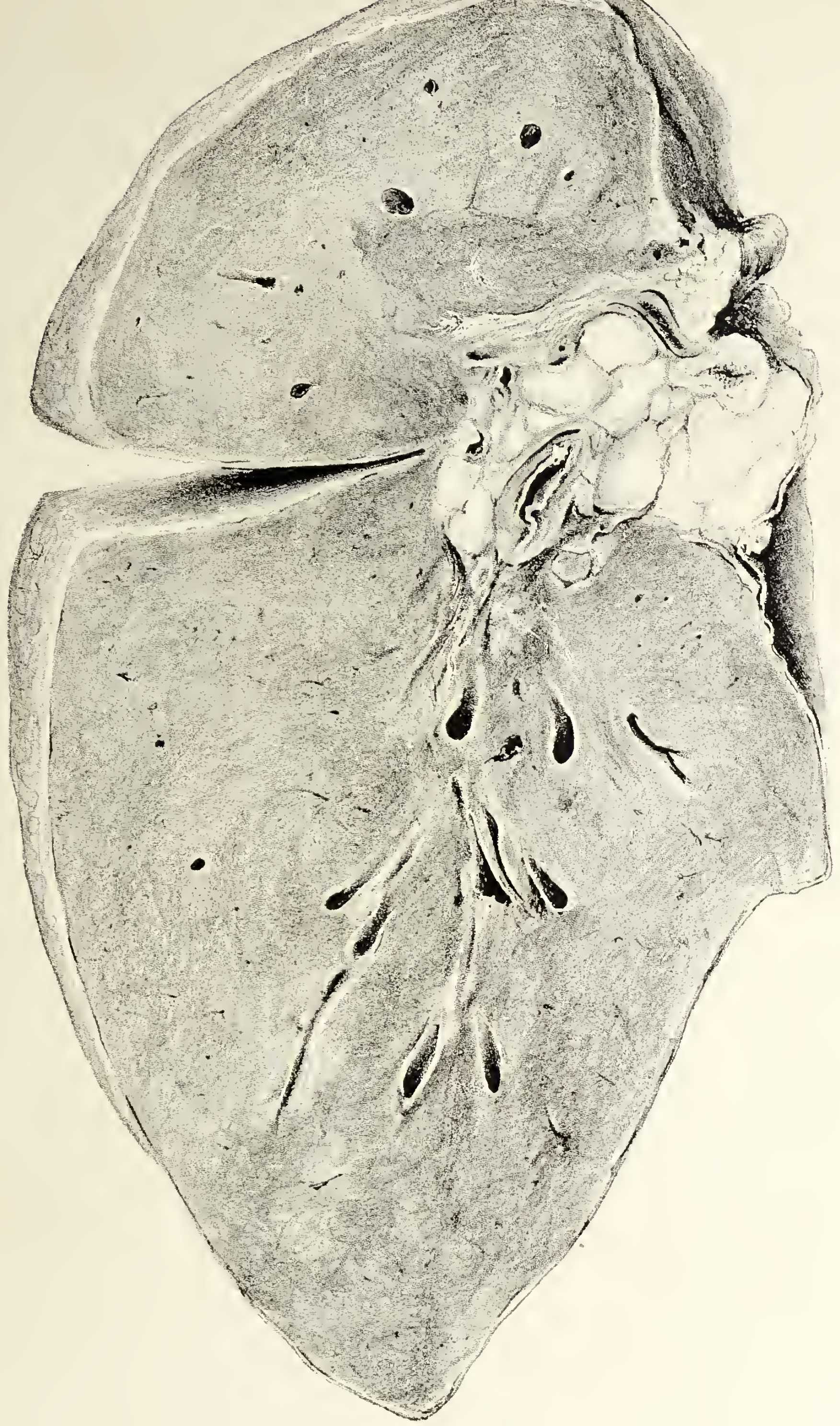


Fig. 1 (natural size).—Section through a lung having at its root a group of enlarged and cheesy bronchial lymph nodes; the specimen otherwise normal.

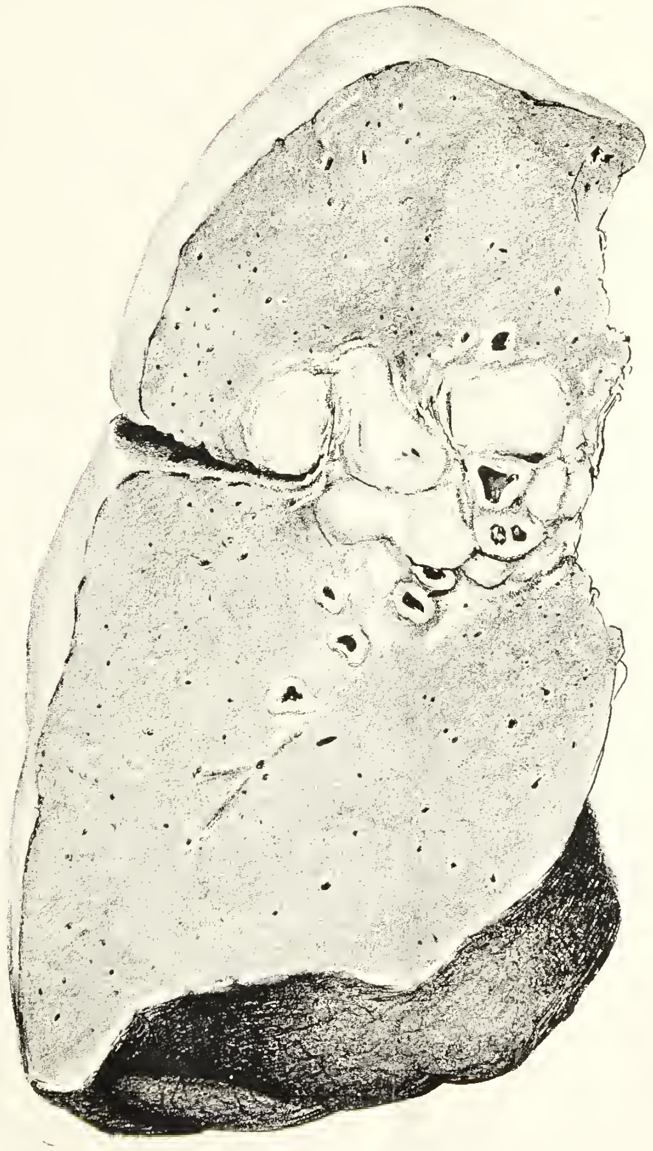


Fig. 2 (natural size).—Section through cheesy bronchial nodes at the root of the lung, also through adjacent cheesy masses; the lung otherwise normal.

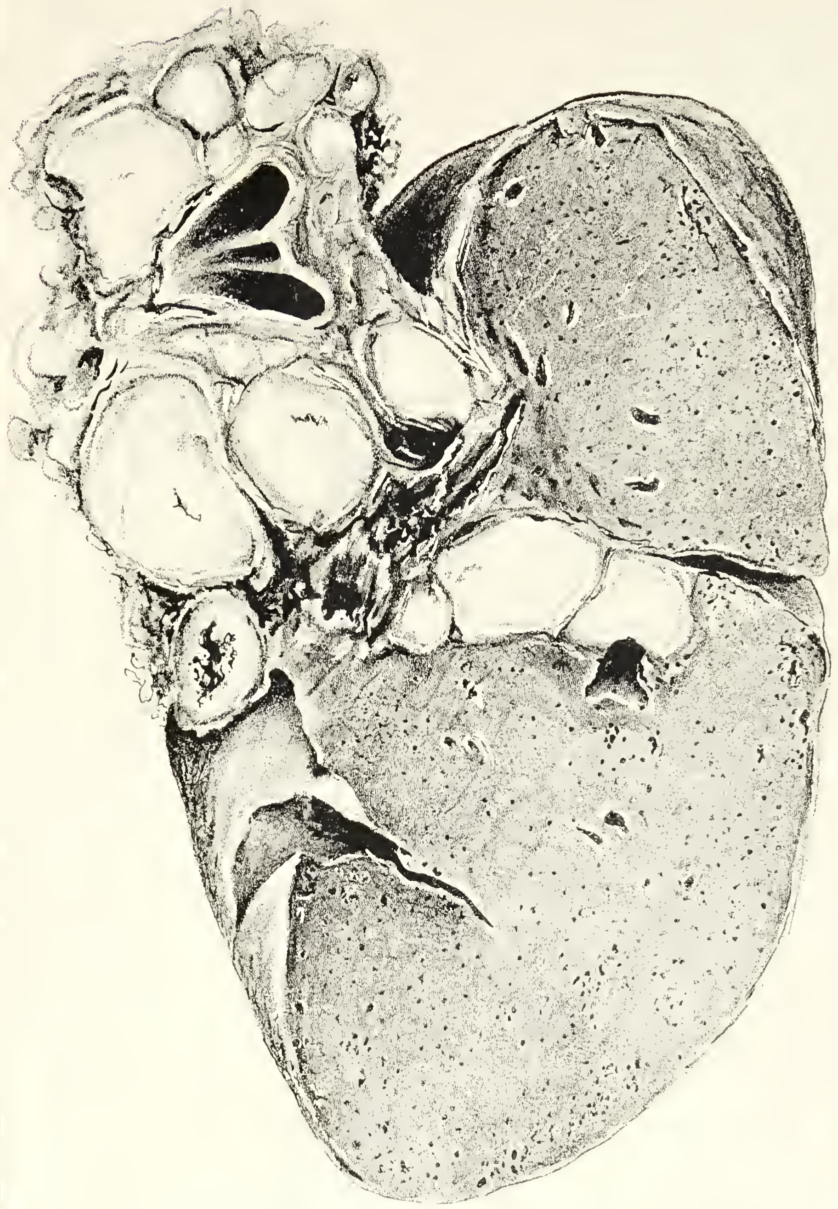


Fig. 3 (natural size).—Section through a large mass of cheesy nodes grouped about the bifurcation of the trachea and the root of the lung, also cheesy masses reaching into the lung. Two bronchial nodes show beginning softening at their centers, and below them there is one smaller node containing a chalk mass.

Fig. 6 (natural size).—Section through a mass at the root of t lung, made up of enlarged cheesy nodes, blood-vessels, a bronchi; also through cheesy masses within the lung. T illustration represents the specimen faithfully; the cut surfa and the pleura show discrete miliary tubercles, those of t pleura standing out in strong contrast upon the background congested membrane.

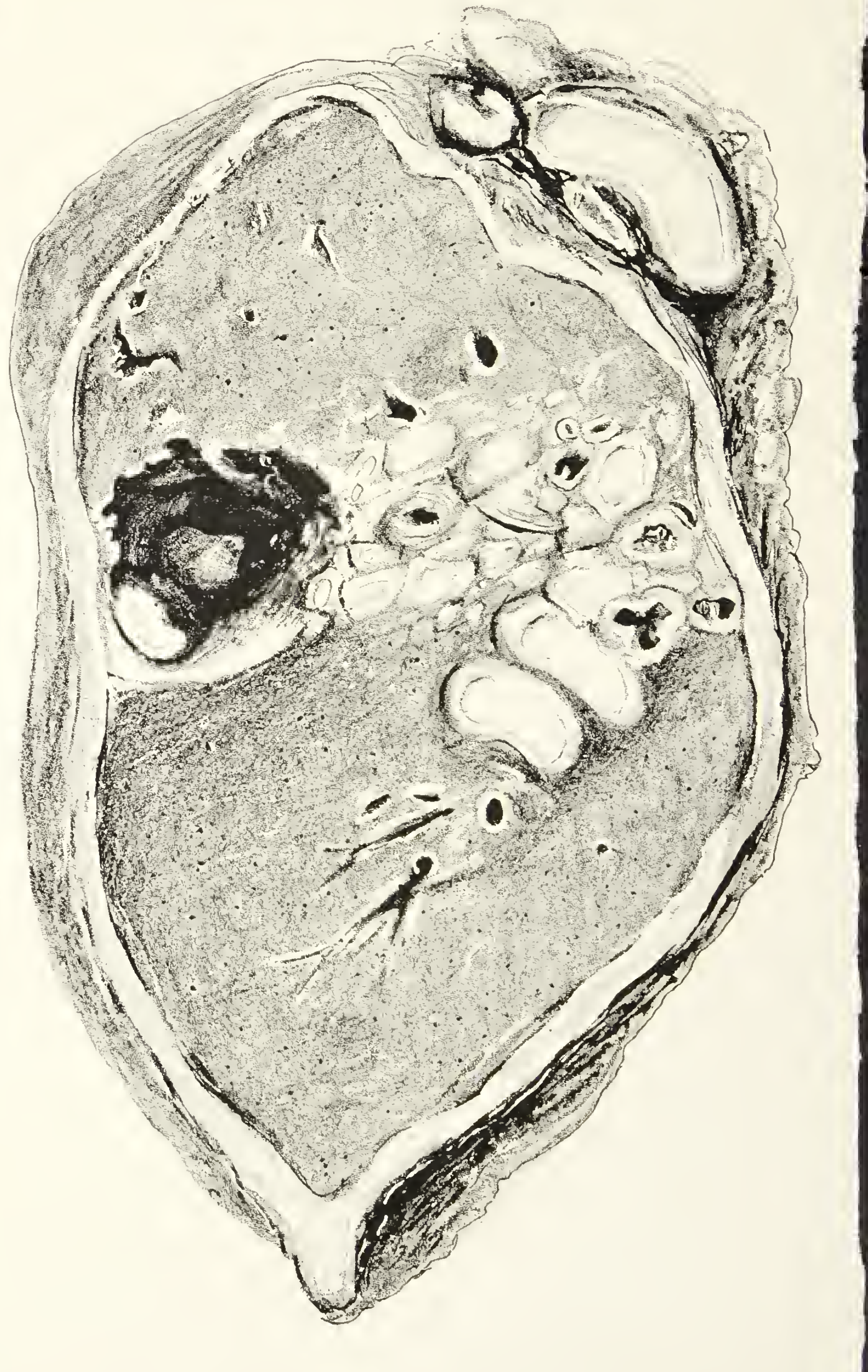


Fig. 4 (natural size).—Section through cheesy lymph nodes in the lung, near its root, also neighboring cheesy masses; at the periphery, a cavity. The entire lung is surrounded with dense, thickened pleura.

THE NEW YORK MEDICAL JOURNAL, February 21, 1891.

Original Communications.

TUBERCULOSIS IN CHILDREN.

PRIMARY INFECTION IN BRONCHIAL LYMPH NODES.

WITH EXHIBITION OF ILLUSTRATIVE SPECIMENS.[*]

By WILLIAM P. NORTHRUP, M.D.,
PATHOLOGIST TO THE NEW YORK FOUNDLING ASYLUM.

The object of this paper is to illustrate and strengthen the recently developed fact that in a great majority of cases of tuberculosis in children the seat of primary infection is in the lymph nodes clustered about the bifurcation of the trachea and the roots of the lungs.

Tubercular infection in the tissues of the body means tubercle bacilli—their presence and products. The all-important source of germ supply is the dried, pulverized sputum of phthisical patients. The bacillus gains entrance to the body by (1) aspiration—through the respiratory tract; (2) ingestion—through the intestinal tract; (3) accidental inoculation—through abraded surfaces; (4) the placental circulation—congenital. These are here mentioned in the order of their importance and frequency. The first avenue of entrance, the respiratory tract, is almost exclusively the one of interest to us.

The writer of this paper happened in upon an operation where a tubercular wrist joint was in process of exsection. As the result of a previous discussion with the operator upon the probable seat of earliest infection, he was met on this occasion with the bantering query: "I suppose you'd like me to take out the bronchial glands too?" To strengthen the force of this sinister inquiry, the sheet was stripped down from the shoulders of the patient, disclosing the broad chest of a well-developed boy of three years. Whatever his color previous to ether inhalation, he was now fairly ruddy, presenting altogether the appearance of a robust, healthy child. Still the theory was a good one, and it was considered proper to retort. Though this had little effect beyond causing a smile and some remark about pathologists getting "cranks" in their heads, the reply was ventured: "Yes, his bronchial glands are most probably cheesy," and a further last fling was added, "and some of these cases will yet come to autopsy." The wrist lesion dated back six weeks; was diagnosticated as tuberculosis; was exsected; and the wound healed admirably, the microscope in the mean time having confirmed the diagnosis.

A little more than a week after the healing of the wound this same child entered upon a three days' illness. The main points in the history were as follows: Discharge from the nose, white patches on the tonsils and fauces, croup, intubation, pneumonia. The paragraph in the autopsy record which especially interests us reads as follows: "Tracheal and bronchial lymph nodes enlarged and cheesy. In the anterior portion of both lungs cicatricial contractions which appear to be the remains of shrunken and obliterated cavities."

The case just narrated illustrates the attitude of many of the profession, and establishes a reason for the existence of this paper. This remark, furthermore, commits the writer to the theory that the primary lesion was in the bronchial nodes and the lungs, and that the joint received its bacilli from such source. Quite right.

We must understand each other before the series of cases is taken up, and the following case will bring us nearer to a common interpretation of the findings. An abstract of the history and autopsy record of this case will read as follows:

A female infant of two weeks was entered upon the books of the Foundling Asylum as "miserable" in condition. When three years old she developed hip-joint disease with abscesses; exsection was performed; afterward otorrhœa appeared and cough was superadded. After all this history, two months before its final illness, the child was considered cured, promising. She was a favorite, a pet, an angelic child with blonde complexion and light-blue eyes, rich ringlets of golden hair; was rather under weight, fragile, and dainty, with an irreproachable disposition; never cried, never whimpered, never wanted anything, just sat quietly and looked about and said "Yes, ma'am," most conventionally, to both sexes alike. There was no pain about the joint operated on, there were no sinuses, but a wide range of motion and good general nutrition, and, to quote quite literally from an observer, she "looked like a good recovery for a child who had had exsection for joint disease." The first change that came over this angelic child was in her disposition; she became irritable—"cranky," as the nurse expressed it—sulky, obstinate, would not answer questions, was disobedient, at times becoming again docile and amiable. Twelve days before death she complained of being sick and wanted to be put to bed. This was unusual with the child and attracted the attention of the nurses, with a consequent call of the house physician. It is sufficient to say that she developed the characteristic signs of tubercular meningitis, and died after twelve days.

On autopsy, the main points of interest to us were the three steps in the tubercular history of this characteristic case. To recount them backward, the brain showed typical, recent, tubercular meningitis, of which the patient died as the immediate cause. *Second*—the hip-joint showed a chalky mass of about the size of an ordinary domestic pea, probably the remains of a lymph node. This was situated just above and in front of the fibrous attachment of the femur to the acetabulum. The result of the operation and the healing seemed perfect. *Third*—the lungs: adhesions over one apex; beneath this, a sunken, bluish surface, over contracted dense fibrous tissue, having in its center chalky granules and masses. *The bronchial nodes* were *wholly transformed into chalk lumps*, no nodes surviving as such. No enlargement was noted in any other lymph nodes in the body—none, let it be observed, of the mesenteric.

Will you allow for a few moments a somewhat dogmatic interpretation? This child inherited or acquired the predisposition to tuberculosis; the germs were present either in the air-passages or already in the bronchial lymph nodes, which we will call, for once, filters. Here was a favorable brood nest, and here, on favorable occasion, they grew and multiplied. From the nodes (the whole group were involved, even those imbedded in the root of the lung) they spread to the adjacent tissues and caused necrosis; calcification finished the process and left the lesion healed, so far as we are able to understand Nature's methods. Some bacilli from the pulmonary or nodal lesion gained entrance to the blood stream and set up the process in the hip joint. This in turn appears to have at last healed. Finally acute meningitis developed from bacilli that had escaped from some previous lesion. Please not to forget that these occurrences are stated as probabilities; the probabilities are justified by the theory, and the theory, we hope, will be maintained by subsequent arguments.

---

[*] Read before the Section in General Medicine of the New York Academy of Medicine, January 20, 1891.

In this paper, in speaking of the comparative ages of tubercular lesions, I desire to state in unmistakable language that discrete miliary tubercles are assumed to be of more recent formation than cheesy masses; that cheesy masses are more recent than calcareous masses or shrunken, dense, fibrous tissue or cavities.

Koch, in his early communication on tuberculosis, says: "In animals diseased with spontaneous tuberculosis, without exception, the bronchial glands are found markedly enlarged and softened." Again: "The enlargement of the bronchial glands and the beginning of the process in the respiratory organs allowed of no doubt as to the origin of the spontaneous tuberculosis in these animals being an inhalation process, which originated from the reception of a few germs."

Dr. E. L. Trudeau has had occasion to repeat these observations in animal experimentation.

In the autopsy records of the New York Foundling Asylum there are one hundred and twenty-five cases of tuberculosis whose records contain the details suitable to our purpose. From the one hundred and twenty-five cases, thirty-four must be discarded, because the ravages were so extensive that the seat of primary infection was not clear; the bronchial nodes were large and cheesy, likewise the mesenteric; the lungs contained tubercles, so did the liver, spleen, kidneys, and meninges. The veteran campaigner, in viewing such a battle-field, could learn but little.

Twenty cases of general tuberculosis (that is, cases in which there were tubercles in the lungs and in other organs besides) showed that the apparently oldest lesion was in the respiratory tract. The bronchial nodes were cheesy or chalky, but there were small or large cheesy masses or cavities in the lungs. The remaining tubercles in the different organs were apparently the result of sudden infection from necrotic regions of the lungs—a "shower of bacilli," as some one has expressed it, from a rupture of softened necrotic, bacilli-laden masses into the blood stream and so distributed to the organs.

In forty-two cases of general tuberculosis the only cheesy masses were in the bronchial lymph nodes. The miliary tubercles involved, besides the lungs, one or more organs of the abdominal cavity or the meninges.

In nine cases the tubercles of the body were limited to the bronchial nodes and the lungs, the latter containing only discrete, glassy, miliary bodies, while the bronchial nodes were far advanced in degenerative changes.

In thirteen cases there was tuberculosis of the bronchial nodes only. Most of these patients died of infectious diseases, many of them after a few days' illness, from measles, diphtheria with invasion of the larynx and bronchi, and pneumonia.

We come now to the interesting point in the demonstration. We have shown that in a vast majority of our cases the oldest lesion was in the respiratory tract; among them was a very significant little group of nine cases in which the bronchial nodes were cheesy, and the only remaining tubercles of the body were in the lungs, and were discrete, glassy, miliary bodies, obviously recent. The pointing here is unmistakably to primary node infection and secondary involvement of the lung.

One step yet remains. Can it be demonstrated that any significant number of patients have tuberculosis of the bronchial lymph nodes only, there being no other tubercles in the body? From our 125 cases (less 34, which were indeterminate) we find 13 of this description.

Case I.—A well-nourished female, three years old, sick six days, with the following history: Measles, diphtheria, croup, intubation, pneumonia, death.

Tuberculosis of the bronchial lymph nodes; no other tubercles in the body.

A half dozen nodes about the bronchi, at the roots of the lungs, enlarged and exhibiting gradations from cheesy masses to discrete tubercles. *Tubercle bacilli* were present in moderate number. The lungs and bronchi presented the ordinary picture of extensive descending diphtheria and pneumonia; no tubercle bacilli present.

This case is most illustrative. The duration of the illness was so brief (six days), the lesion was sufficiently advanced (certain nodes being quite transformed into cheesy material), as to fairly allow the presumption that this well-nourished child was thriving very well until it succumbed to the overwhelming infection of measles and diphtheria.

Case II.—Female, four years old. Had scarlet fever six weeks before death. Two weeks before death was taken sick—measles, diphtheria, croup, intubation, nephritis, pneumonia.

Bronchial lymph nodes cheesy; no tubercles elsewhere in the body. Lungs: broncho pneumonia in both.

Case III.—Male, three years and seven months old; diphtheria, croup, intubation, pneumonia, nephritis; sick six days.

Bronchial lymph nodes cheesy; no tubercles elsewhere in body.

Body fairly nourished. Bronchi: descending diphtheria. Lungs: moderate consolidation, emphysema; an unusual amount of black pigment for a child's lung.

Case IV.—Male, a year and nine months old; eight months before death had pneumonia; no measles; no further history.

Bronchial lymph nodes large and cheesy. Lungs: both extensively adherent, with a moderate amount of recent pneumonia. The post-mortem diagnosis was that of chronic and recent pneumonia, but the microscope failed to find any evidence of a chronic process; no tubercles.

Case V.—Male, three years and a half old; diphtheria, croup, intubation, pneumonia.

Bronchial lymph nodes cheesy and greatly enlarged; some contained discrete miliary tubercles.

Body well nourished. Bronchi: descending diphtheria. Lungs: pneumonic.

Case VI.—Male, two years and two months old. Child was sent out to the care of a nurse in "poor" condition. It gradually failed; developed fœtor of the breath, pneumonia, and diphtheria. Died in two days after its return to the house.

Bronchial lymph nodes enlarged and cheesy. Body emaciated; alveolar necrosis; diphtheria. Lungs: double broncho-pneumonia; no tubercles elsewhere.

Case VII.—Female, a year and four months old. A child which was always in wretched condition, subject to diarrhœa for the last three months of life.

Bronchial lymph nodes cheesy. Emaciated. Lungs: œdematous, bronchitis. Intestines: chronic catarrh, Peyer's patches swollen, follicular ulcers in the colon; mesenteric nodes swollen, not tubercular.

Case VIII.—Female, three years and ten months old. Never thrived; was marked "miserable" when entered as an infant; a sphacelous piece of bone was removed from the tibia; perfect recovery followed the operation. Cause of death, whooping-cough and pneumonia.

Bronchial lymph nodes enlarged and containing miliary tubercles. Double broncho-pneumonia; no tubercles.

Case IX.—Male, eleven months and a half old. Was brought to the hospital at night in a dying condition.

Bronchial lymph nodes cheesy; affected nodes imbedded in the lung at its very root.

Body emaciated. Chest: double empyema; purulent pericarditis. No tubercles elsewhere.

Case X.—Male, eleven months old. Five months before death had broncho-pneumonia, from which he seemed to recover, except that he had a persistent paroxysmal cough not unlike whooping-cough. The breathing was more or less stridulous until death.

Bronchial lymph node (one) cheesy and causing pressure. Other nodes markedly enlarged, but showing no tubercles.

Body emaciated. Lungs: right, extensively adherent and pneumonic; left, showing extensive consolidation.

One bronchial node, an inch in all diameters, was firmly wedged into the angle of bifurcation of the trachea, making pressure upon both bronchi, more upon the left. No other tubercles in the body. Intestines: the seat of catarrh, with swelling of the mesenteric nodes, not tubercular.

Case XI.—Male, two years and eight months old. Whooping-cough for two months. Eleven days before death, diphtheria, croup, tracheotomy, pneumonia.

Bronchial lymph nodes tubercular.

Body well nourished. Lungs: double pneumonia, diphtheritic membrane in the bronchi.

Microscopic examination failed to find any tubercles in the lungs; scattered tubercles in the bronchial nodes; otherwise, none in the body.

Case XII.—Female, two years and ten months old. Measles a month before death, pertussis quickly following. Thirteen days before death, diphtheria, croup, intubation, pneumonia, nephritis.

Bronchial lymph node (one) cheesy, diffluent in the center.

Body well nourished. Lungs: extensive consolidation of both (recent). Bronchi: descending diphtheria. No tubercles elsewhere.

Case XIII.—Male, five months old. Returned dying.

Bronchial and tracheal lymph nodes enlarged and cheesy, diffluent in the centers.

Body poorly nourished. Lungs: empyema of the right side; no pneumonia. The bronchial and tracheal nodes formed a large, continuous, knotted mass; no point of rupture into the pleura or the air-passages.

An Illustrative Case.—A female infant, fifty-four days old. The mother of this child was said to have died of phthisis before the death of the infant. Five days before death the child was returned to the asylum with diarrhœa, cough, dyspnœa, and a temperature of 103° F. The child was in a wretched condition, very like collapse, though its cry was vigorous. The respirations were shallow and rapid, with panting and flaring of the alæ nasi.

Autopsy: Lymph nodes at the porta of the liver enlarged, fused together into a mass of about the size of a hen's egg; cheesy. Mesenteric nodes moderately enlarged and uniformly cheesy; bronchial nodes moderately enlarged, and, on gross inspection, not tubercular, but demonstrated to be so under the microscope.

Body: emaciated, umbilicus healed. Lung: excessive amount of discrete miliary tubercles, many of large size, others miliary; no cheesy masses, no pneumonia; tubercles on the costal and pulmonary layers of the pleura. Liver: olive-green in color, slightly enlarged; numerous small, opaque, white tubercles. Spleen: not enlarged; numerous large, opaque, white tubercles. Pancreas: the portion lying against the nodes of the porta tuberculous but circumscribed and limited; no further tubercles in the organ. Intestines: a few small ulcers in Peyer's patches; mesenteric nodes as above described. Kidneys: numerous small tubercles, widely distributed through both organs. Peritonæum: tubercles on the diaphragmatic portion and in the iliac regions. Omentum: large, opaque tubercles.

Here was a patient whose mother died of phthisis within a few weeks after giving it birth. On autopsy, the most extensive and apparently the oldest tubercular process was located about the porta of the liver. The case suggests the possibility that the child may have received its bacilli through the fœtal circulation from its tubercular mother. No case of undoubted congenital tuberculosis has occurred at the New York Foundling Asylum. If its bacilli came through the umbilical vein, it is easily understood why the tuberculosis was so widespread—*i. e.*, in every organ, except the brain and heart. A case has been reported where bacilli were found in the blood stream of a viable child removed by Cæsarean section from a woman dying of tubercular peritonitis. There is room for suspicion that the bacilli in this case gained entrance to the fœtal circulation during the manipulation necessary to removing the child. Congenital tuberculosis is very rare, and tubercular lesion of the placenta is probably the source of infection. The bacilli may enter the blood stream from the placenta as from a lung lesion.

The following case is illustrative of the subject, and is somewhat suggestive as to the necessity of thorough search for old chalky remains:

Illustrative Case. Tubercular Meningitis; Retropharyngeal Abscess; Chalky Bronchial Gland.—A child, three years and three months old, died with the usual symptoms of meningitis. The prospective interest in the autopsy was the possibility of tubercular infection being the cause of the retropharyngeal abscess and subsequently of the meningitis. The intracranial lesion was plain enough, but no tubercular glands could be found in the neighborhood of the abscess; several large nodes were scattered about on either side, and numerous enlarged follicles closely simulated miliary tubercles, but none were surely such. The tracheal and bronchial lymph nodes were closely examined, the lung as well, without finding old tubercular scars. After the pieces had rested in alcohol two days they were cut across in serial sections, when the edge of the razor grated on a chalky mass. Here was revealed a long, narrow, chalky lump, flattened against the trachea—the remains, no doubt, of a group of fused lymph nodes which had undergone the apparently safe transformation. No tubercles were discovered with the microscope in the abscess walls or the enlarged nodes, and no tubercles were found elsewhere in the organs. The tubercular process, so far as could be discovered, was limited to the bronchial nodes and the meninges.

Dr. Ira Van Gieson has presented before the New York Pathological Society a very thoroughly examined case of phosphorus poisoning in which the patient died in three days after receiving the drug. "Sections from one of the bronchial glands showed miliary tubercles." No others were found in the whole body. Dr. Van Gieson remarks: "This showed one of the stages in the development of tuberculosis, and illustrated that constant breathing of tubercle bacilli might, in some, set up tuberculosis of the bronchial glands."

Dr. Eugene Hodenpyl has, since the reading of this paper, presented a most interesting case before the New York Pathological Society. A young man, twenty-one years old, died of cirrhosis of the liver. Several of the bronchial nodes were found moderately enlarged, cheesy, and chalky. There were no other tubercles in the body. Bacilli, a very few (two in one section), were found in the cheesy glands.

Dr. H. P. Loomis has recently reported some very interesting and instructive animal experiments, consisting of inoculations from the bronchial nodes of "persons who had died suddenly, either from accident or acute non-tubercular disease."

From thirty cases in which there were no discoverable tubercles in the lungs, eight produced tuberculosis in the animals by such inoculations.

Of the eight subjects, five had died suddenly as the result of accident, and none of the thirty had been sick more than ten days. One was a prize-fighter, dead of acute lobar pneumonia.

Another was a seventy-year-old woman, who served for the last year before her death as helper in a ward containing numerous phthisis patients. She died suddenly of apoplexy. Her bronchial lymph nodes furnished a virus which quickly overwhelmed the inoculated animal with general tuberculosis.

With this last link the chain of evidence is much strengthened.

Are there any physiological experiments which throw light upon this question? Do they explain how bacilli may be present in the lymph nodes about the bifurcation of the trachea and hilum of the lung, and not elsewhere? Julius Arnold has, in a series of masterly experiments in dust inhalation in dogs and rabbits, demonstrated that, a very short time after the beginning of the inhalation, the particles inhaled may be found in the bronchial nodes; in ultramarine inhalation the particles were found after three hours. Again, after stopping the inhalations, even after prolonged breathing of air containing the dust, the bronchi and alveoli might be quite free of the particles, while the bronchial nodes were stuffed with dust.

In his summary on soot inhalations, he gives among his conclusions: "That every gland (speaking of the nodes at the hilum of the lung) has the power of retaining for a very long time a great part of the dust brought to it; whether it allows any dust to pass through at all is not possible to determine from the gland as such; in the efferent vessels the effort to demonstrate the presence of dust was not successful."

Dust particles were found repeatedly imbedded in the walls of the alveoli, in the lymph spaces, in the lymph canals, and in the afferent vessels, forming a continuous chain of evidence as to the course traveled by the particles; but none were found in the channels leading *from* the nodes. In three hours, then, dust particles reached the nodes, but, however prolonged the inhalation, never passed through; the filter retained them.

Will tubercle bacilli follow the course of dust in the air-passages? The case reported by Van Gieson was examined with great care, and no tubercles were found outside the one bronchial node. At their point of entrance into the tissues, whether trachea, bronchus, or alveoli, they left no trace. The cases of H. P. Loomis's were examined for tubercle elsewhere with negative result. The cases cited in the series above would point to the conclusion also that, at the point of entrance, there was no development of tubercle.

Some animal experiments of Dobrolonski's, of St. Petersburg, are of great value on this point. He says in conclusion: "Tubercle bacilli can infect the organism through the digestive tract without previous lesion, either desquamation or inflammation. Tubercle virus, as well as spores, can traverse easily the perfectly normal intestinal wall; the contact need not even be prolonged."

Can tubercle bacilli enter the system by penetrating the mucous membrane of the respiratory passages? if so, do they cause lesion at the point of entrance? This question is well answered by some animal experiments by Wyssokowicz, of the University of Charkow. To test the penetrability of the mucous membrane of the mouth of the guinea-pig, he rubbed into the membrane of the mouth, having first cleaned away all particles of food, tubercle sputum rich in bacilli. By means of a cotton pledget wound upon the end of a sound, he rubbed the sputum into the wall of the pharynx for from half a minute to two minutes, but, let it be observed, without injury to the membrane, at least without drawing blood.

After twelve days he noted one pea-sized glandular swelling in the neck; on the twenty-fifth day, three swollen glands; and on the forty-fifth day the animal died. On autopsy, there were found the following: Five lymph nodes enlarged from the size of a pea to that of a bean, partially or wholly cheesy. In the lungs there were from sixteen to twenty gray miliary nodules, while the bronchial glands were markedly enlarged, hard, and cheesy. There were no other tubercles in the body. The intestines and mesenteric glands were unchanged. Tubercle bacilli were present in all the nodules and cheesy masses. To quote literally a point of interest to us just now, he says: "But this case aroused the greatest interest for this reason: that even by the most penetrating examination no local change could be demonstrated—either ulceration, or thickening, or induration, either upon the surface or deep in the mucous membrane of the throat or larynx or in the neighboring parts."

In 125 cases considered in series this evening, 34 were indeterminate, 3 were primarily of mesenteric lymph-node infection, and 88 were primarily of bronchial-node infection. To these we add 9 cases, valuable in illustration, of Dr. Loomis's and Dr. Van Gieson's, making 97 cases of primary infection of the bronchial lymph nodes.

As a short statement of the manner of infection in most cases of spontaneous tuberculosis in children, the following may be allowed, especially as it is wholly borne out by authorities:

Tubercle bacilli enter the respiratory passages with the inspired air, lodging in the mucus of the air-passages or the alveoli of the lungs; they may pass through the mucous membrane at any point, be taken into the lymph spaces, traverse the lymph canals to the nearest nodes, and be retained. Their subsequent career depends upon the power of the tissues to withstand their tendency to grow and reproduce the lesion in which they were bred. According to this power of resistance, they will die or remain inactive for a long period, or will develop nodes known as scrofulous (on the authority of Wyssokowicz), or may lead on, when the powers of resistance are depressed, to such changes as have been detailed in the paper.

It is just in connection with cases of this stage which one would hope that the new inoculation cure of Koch might avail. Here we see the great effort the fibrous capsule of the node puts forth to protect the body. In many cases we find, years afterward, the remains of the invaders dead in the *débris* of their own ravages, the calcified monument of their presence still held in the firm grasp of the protective capsule.

Note.—For the very satisfactory drawings that illustrate this article I am indebted to Dr. H. Macdonald.

References.

The interested reader will find excellent papers on these subjects, together with abundant references, as follows:

1. Oskar Müller. Tuberculosis in Children (Zur Kenntniss der Kindertuberculose). *München. med. Woch.*, xxxvi, 1889, 875, 899, 917.
2. Arnold. *Dust Inhalations* (*Untersuchungen über Staubinhalation und Staubmetastase*). Leipzig: F. C. W. Vogel, 1885.
3. Koch. Early paper on tuberculosis (Die Aetiologie der Tuberculose). *Berlin. klin. Woch.*, 1882, xix.
4. Weigert. Die Verbreitungswege des Tuberkelgiftes nach dessen Eintritt in den Organismus. *Jahrb. für Kinderheilk.*, Bd. xxi, N. F., 1884.
5. Ely. Tuberculosis: Extension in the Lung by Aspiration. *Med. Record*, March 15, 1890.
6. Dobrolonski. De la pénétration des bacilles tuberculeux dans l'organisme à travers la muqueuse intestinale et du développement de la tuberculose expérimentelle. *Archives de méd. expérim. et d'anatomie pathologique*, March 1, 1890, p. 253.
7. Wyssokowicz. Ueber die Beziehung der Skrofulose zur Tuberkulose. *Mittheilungen aus Dr. Brehmer's Heilanstalt für Lungenkranke in Görbersdorf*, N. F., 1890. Wiesbaden: Verlag von J. F. Bergmann.
8. Loomis. Some Facts in the Ætiology of Tuberculosis, evidenced by Thirty Autopsies and Experiments upon Animals. *Med. Record*, December 20, 1890.
9. Van Gieson. Phosphorus Poisoning; a Case; One Bronchial Node Tubercular. *Proceedings of the N. Y. Pathological Society*, 1888, p. 119.
10. Biedert and Litting. Die Krankheiten der Bronchialdrüsen. *Festschrift Herrn Eduard Henoch zum 70sten Geburtstage.* Berlin: A. Hirschwald, 1890.
11. Hodenpyl. Cirrhosis of the Liver; a Case; Bronchial Nodes Tubercular. *Proc. of the N. Y. Pathol. Soc.*, 1891.

PAPILLITIS, OR INFLAMMATION OF THE INTRA-OCULAR END OF THE OPTIC NERVE;

ITS ÆTIOLOGY AND CONNECTION WITH INTRACRANIAL DISEASE.*

By CHARLES STEDMAN BULL, M. D.,

PROFESSOR OF OPHTHALMOLOGY IN THE UNIVERSITY OF THE CITY OF NEW YORK;
SURGEON TO THE NEW YORK EYE AND EAR INFIRMARY;
CONSULTING OPHTHALMIC SURGEON TO ST. LUKE'S HOSPITAL AND TO
ST. MARY'S HOSPITAL FOR CHILDREN.

The Optic Disc or Papilla; the Intra-ocular End of the Optic Nerve.—The intra-ocular end of the optic nerve, as seen with the ophthalmoscope, is the only nerve in the body which is visible to the eye. The nerve fibers on entering the eye radiate and spread out in and upon the retina, but not equally in all directions. They are more numerous on the nasal side, and above and below, than they are on the temporal side. The minute nutrient vessels of the disc are derived partly from the short posterior ciliary arteries and partly from the central retinal artery, twigs from both of these sources uniting to form the so-called "circle of Haller," which surrounds the optic nerve behind the disc. The nerve enters the sclerotic through a funnel-shaped opening, the wider part of which is directed backward. The central depression in the disc is called the "physiological cup" or excavation, and its size and depth are determined by the arrangement of the nerve fibers. Its color is usually paler than the rest of the disc. The boundary of the disc is the "chorioidal" ring, the edge of the opening in the chorioid corresponding to that in the sclerotic. As the latter is the smaller of the two, a narrow rim of sclerotic is seen within the "chorioidal ring," which is known as the "sclerotic ring." The trunk of the optic nerve has a double sheath. The inner sheath is delicate, closely surrounds the nerve, and is continuous with the pia mater of the brain. The outer sheath is thick, dense, fibrous tissue, which merges into the sclerotic, and at the optic foramen is continuous with the dura mater. The vaginal space surrounding the optic nerve is continuous with the subarachnoid and subdural spaces around the brain. As the nerve enters the eye, the vaginal space passes inside the posterior part of the sclerotic opening. This space is here, according to some authors, closed, while according to others it is continuous with the lymphatic spaces in the optic nerve and retina.

There are certain pathological changes occurring in the eye which are common to both optic nerve and retina. When the retina is inflamed, the optic nerve is very apt to participate in the process. But the disc also undergoes inflammatory changes independently of the retina. These pathological changes are of two kinds: increased vascularity usually associated with swelling, and diminished vascularity commonly accompanied by shrinking. The former are more or less inflammatory and are sometimes, though wrongly, classed together as "optic neuritis." In speaking of the inflammatory changes occurring in the intra-ocular end of the optic nerve I shall employ the term "papillitis," as first proposed by Leber, in order to avoid confusion.

---

* Read before the New York Academy of Medicine, December 18, 1890.

The signs of increased vascularity or inflammation of the papilla consist usually of several more or less distinct stages: 1. There is simple congestion or abnormal vascularity, characterized by simple redness, without swelling or obscuration of the edge of the disc. 2. Congestion with œdema, slight papillitis, characterized by redness, swelling, and more or less complete obscuration of the edge of the disc. 3. True papillitis, characterized by greatly increased redness and swelling of the disc, with total obscuration of the edge of the disc, and often of the entire disc itself.

Simple Congestion.—A few words in passing in regard to simple congestion. Increased redness is the usual symptom of tissue hyperæmia, but it is of much less value as a sign of hyperæmia of the optic disc than in the case of other tissues, on account of the great variation which may exist in the amount of normal redness. The apparent tint of the optic disc is a very frequent source of error in ophthalmoscopic examination of eyes by unskilled observers, and its importance is greatly overestimated. It is significant only when it presents special characteristics, or when developed under repeated examinations, or when it is more pronounced in one eye than the other. Gowers is right when he advises that the term congestion or hyperæmia of the disc is best restricted to those cases in which the increased vascularity exists alone without any demonstrable change in the appearance or distinctness of the edge of the disc.

Papillitis.—Congestion with œdema may be regarded as the first stage of papillitis. The normal pink tint of the disc becomes increased, the edge of the disc is blurred, and there may be a more or less distinct halo surrounding it. The center of the disc may be much redder than the periphery. The vessels may be normal or the retinal veins may be enlarged. These appearances are said to be the effect of pressure on the retinal vein, causing passive congestion of the retinal vessels, but they may occur without the least sign of mechanical congestion.

From congestion with œdema to actual inflammation the transition is one of degree alone. The term "papillitis" should be restricted to those cases in which the swelling, redness, and opacity are sufficient to conceal the edge of the disc. The changes here observed are due not merely to increased congestion and œdema, but to changes in the optic-nerve fibers and surrounding connective tissue. The different appearances on the disc in different cases, and in the same case at different times, have led to the introduction of two terms to describe different varieties of inflammation—viz., first, "descending neuritis," and second, choked disc. In true "papillitis" we have proliferation of nuclei, escape of leucocytes into the connective tissue, and finally degeneration of nerve structures. As the swelling of the disc increases, white lines and spots on the disc are not uncommonly seen, often corresponding to the position of the arteries. Hæmorrhages, usually small, are not uncommon. The arteries show little change, but the veins become dark and tortuous, and sometimes dilated. In the early stages of papillitis from tumor they are said to be less frequently dilated than in papillitis from meningitis. As the papillitis goes on, the swelling increases and often becomes so great that there may be great difficulty in seeing the disc even with a convex glass, and thus the disc becomes markedly hypermetropic. The veins are darker, more dilated, and the arteries are narrowed. Both arteries and veins may be concealed by the œdematous swelling. The swelling may invade the adjacent retina in all directions for a long distance, and occasionally white patches of exudation are seen, surrounded by small hæmorrhages. It should not be forgotten that papillitis in this stage may disappear completely. A further increase in the inflammatory process is always accompanied by signs of compression and strangulation of the papillary vessels. In this stage the arteries are very much narrowed, hæmorrhages are numerous and scattered over the entire fundus, the veins are distended and tortuous as far as the periphery, and the retina becomes more or less opaque.

An inflammation of the disc, or papillitis, may remain for weeks, or months, or even years, in the lower degrees unchanged, or the most intense strangulation of the vessels and disc may come on in a few weeks. All subjective symptoms may be entirely absent even when papillitis is present, the vision being unimpaired and the field of vision being unrestricted. Photophobia, or intolerance of light, and pain are usually rare. In the more severe cases of papillitis the sight is always impaired and may be entirely lost. The impairment of vision usually occurs earlier in one eye than the other, and it may come on slowly or rapidly, but almost never suddenly. A narrowing of the field of vision usually accompanies any marked loss of vision, and very often the defect in the field is very irregular. In some cases a defect in the field due to intracranial disease, such as hemianopsia or central scotoma, may accompany the peripheral limitation of the field due to the papillitis. This peripheral limitation is sometimes very marked. Another symptom to be carefully noted is a defect in the field for colors, and this may exist even when the vision is unimpaired. The perception for red and green is usually lost before that for yellow and blue.

The papillitis occurring in the course of intracranial disease may be accompanied by defective vision, due not to intra-ocular changes, but to a lesion in the course of the optic-nerve fibers or their nuclei of origin. Some authors are of the opinion that loss of vision following intracranial disease is more frequent in cases of descending neuritis than in cases of isolated papillitis. This may be true, but it should not be forgotten that it is an exceedingly difficult matter to distinguish ophthalmoscopically between papillitis due to descending neuritis and purely isolated papillitis.

Loss of vision from isolated papillitis never occurs suddenly, but we do meet with it occasionally from brain disease. A symmetrical hemianopsic defect in the visual field points to an intracranial cause; and an unsymmetrical defect, especially a loss of the temporal halves of both fields, usually indicates a pressure on the chiasm from distention of the third ventricle. Complete loss of the sight of one eye and defect of the adjacent half of the field of the other eye are probably of cerebral origin. A peripheral narrowing of the field of vision is usually referred to a lesion in front of the chiasm.

Causes of Papillitis.—The most common cause of papillitis is intracranial disease; and of these intracranial lesions, tumor is much the most frequent. The frequency and severity of the papillitis do not seem to be materially influenced by either the nature, the size, or the location of the tumor. The next most frequent cause is meningitis; then follow abscess of the brain, hydatid disease, and softening from thrombosis or embolism, in the order named. Papillitis is also occasionally met with in acute diseases of the spinal cord. The diseases of the general system which sometimes cause papillitis are chronic Bright's disease, certain febrile disorders, anæmia from loss of blood, etc. Papillitis may also occur as an idiopathic lesion, or from great menstrual disturbances, or from exposure to long-continued and severe cold. Unilateral papillitis is almost always due to a lesion in the corresponding orbit.

The *duration* of papillitis varies widely. It may reach its height in a few weeks and then subside, or it may be so chronic that months and even years elapse without the slightest apparent change in the ophthalmoscopic picture.

The Relation of Papillitis to Intracranial Disease.—The first definite theory of the method in which intracranial disease acts in causing papillitis was advanced by von Graefe in 1859, and still further elaborated in 1866. It was based on certain cases of papillitis, with hæmorrhages occurring in the course of cerebral tumor, in which no signs of inflammation were demonstrable macroscopically in the trunk of the optic nerve; whereas, in certain other cases of meningitis in which the ophthalmoscopic changes had been less marked, inflammation was found in the course of the nerve trunk, and this was assumed to have descended from the inflamed meninges. This condition was called "descending neuritis" by von Graefe, who contended that the ophthalmoscopic characteristics were a slight degree of change in the color and swelling of the disc and a tendency to invade the adjacent retina. The cases of brain tumor with marked papillitis and hæmorrhages, but with no evidence of inflammation in the nerve trunks, he explained by the theory that they were due to the effect produced on the circulation of the eye by the increased intracranial pressure, which obstructed the return of blood from the eye by compressing the cavernous sinus. This mechanical effect was greatly intensified by the unyielding character of the sclerotic ring. To this combined swelling of the disc with hæmorrhages and vascular distention he gave the name of "*Stauungspapille*," which we translate as "choked disc."

This "obstruction" theory was accepted as more or less satisfactory until 1869, when Sesemann dealt it the first severe blow by demonstrating that the communication between the orbital and facial veins was so free that the effect of pressure on the cavernous sinus was at once relieved, and the latter caused merely a very transient engorgement of the retinal veins. He also proved that even obliteration of the cavernous sinus produced scarcely any ophthalmoscopic change in the appearance of the disc.

In 1869 Schwalbe discovered that the subvaginal space around the optic nerve is continuous at the optic foramen with the subdural spaces around the brain, and could be injected from them. These facts agreed with previous observations which had been made by Stellwag in 1856 and Manz in 1865—that the sheath of the optic nerve might be distended in optic neuritis caused by tumors and meningitis.

In 1869 Schmidt suggested that the intracranial pressure might influence the intra-ocular end of the optic nerve by this mechanism, since the distention of the sheath is usually greatest just behind the eyeball. This theory was supported in 1871 by Manz, who showed how frequently distention of the sheath was met with in optic neuritis, and who believed it to be an invariable occurrence in cases of intracranial pressure or increase of the subarachnoid fluid. He thought that the simple pressure on the nerve and blood-vessels might cause the intra-ocular changes, and he endeavored by experiments on animals to demonstrate this effect of the vaginal distention. Injections into the subdural space passed into and distended the sheath and caused engorgement of the retinal veins, and in some cases a transient redness and swelling of the papilla.

Schmidt found, however, that a colored liquid injected into the sheath passed into the lymph spaces in the nerve at the lamina cribrosa, and therefore suggested that the neuritis was produced, not by the simple pressure outside the nerve, but by the irritating influence of the liquid which passed into these lymph spaces. These theories of Schmidt and Manz's have been generally accepted, at least in Germany, as affording the most satisfactory explanation of the origin of optic neuritis.

In 1881 Leber adopted the view that the distention of the sheath is the immediate exciting cause of neuritis, but he doubted the "mechanical-pressure" theory of Manz, and rejected absolutely the "irritation" theory of Schmidt. He suggested that the fluid in the sheath excites neuritis by conveying pathogenic material to the optic nerve behind the eye, and Deutschmann, in 1887, published some experimental evidence in favor of Leber's view and in opposition to the theory of the causation of "choked disc" by distention of the nerve sheath.

In 1863 Hughlings Jackson suggested that intracranial tumor caused optic neuritis by its irritating effect, acting as a foreign body in the skull. This theory has been supported by Brown Séquard, and in 1868 by Benedikt; the latter ascribed the effect to irritation of the vaso-motor nerves. This theory assumes that the tumor acts as a source of irritation, producing a reflex influence through the vaso-motor nerves upon the optic disc, and thus leading to its inflammation. This theory, however, has been rejected by most writers on the ground that it involves a mechanism which is not known positively to exist. It is still regarded by Hughlings Jackson, however, as the theory which best explains the phenomena of neuritis.

Edmunds and Lawford hold that optic neuritis, when due to an intracranial cause, is secondary to basilar meningitis, and that the inflammation reaches the substance of the nerve trunk through its sheath.

Parinaud believes that neuritis is invariably the effect of distention of the ventricles of the brain, which causes general cerebral œdema.

In our endeavors to elucidate the truth of the causation of "choked disc" or papillitis there are certain facts to be remembered. Optic neuritis, limited to or most intense in the optic disc, may occur without any apparent intracranial disease. Pure papillitis is known to occur in simple anæmia. From a consideration of these facts it seems fair to conclude that the intra-ocular end of the optic nerve is a structure peculiarly prone to inflammation.

It is a difficult matter to connect papillitis with increase of intracranial pressure, for it is the rare exception in chronic hydrocephalus, where the intracranial pressure is raised to the highest point of which we have any knowledge. On the other hand, in cases of intracranial tumor with papillitis, there may be no sign of increased intracranial pressure during the life of the patient. There may also be signs of increased intracranial pressure in cases of tumor without papillitis. If we reject the theory that pressure on the cavernous sinus is the immediate cause of papillitis, still we can not absolutely ignore its influence on the retinal circulation. The great distention of the veins and the narrowing of the arteries occur mainly when the inflammatory process has reached a high degree of intensity, and these facts point to the inflammation in the nerve as the cause of the strangulation by pressure on the vessels, and this view is confirmed by pathological investigations. The conspicuous constriction of the vessels is always in the papilla, in front of the sclerotic. Moreover, the most intense signs of strangulation may be seen in cases in which there is no reason to suspect the presence of intracranial disease. Distention of the optic sheath is frequently met with in cases of papillitis, but it is by no means invariable either in cases of tumor or in conditions of increased intracranial pressure. It may be absent in cases of cerebral tumor with papillitis. It may also be absent in cases of tumor with internal hydrocephalus.

It has been suggested that the fluid may be found within the sheath itself. If the sheath is the main lymph-channel by which fluid is conveyed from the eye, its distention in optic neuritis by fluid escaping from the papilla is easily understood. But there is good ground for believing that the fluid found in the sheath passes into it from the subarachnoid space. We really know very little of the relation which may exist between dropsy of the sheath and optic neuritis. The occasional occurrence of papillitis without it shows that it is neither the invariable nor the chief mechanical cause of papillitis.

It therefore seems proper to draw the conclusion that we can not decide in any given case against the existence of a descending neuritis from examination of a small portion of the trunk of the optic nerve, and that a pathological change in the nerve, deviating but slightly from the normal state, may convey a condition of irritation to the eye which is sufficient to set up actual papillitis.

It also seems proper to draw the following conclusions in regard to the development of papillitis in intracranial disease:

1. In cases of cerebral tumor, evidence of descending inflammation may be traced in the sheath or nerve much more commonly than is generally supposed, while in cases of meningitis the evidence of descending inflammation is almost invariable.

2. The resulting papillitis may be slight or may grow intense, but we are ignorant of the causes which bring about this difference.

3. The mechanical congestion in these cases of papillitis does not always result from compression of the vessels behind the sclerotic ring, but does always follow compression by inflammatory exudation in the papilla.

4. Slow increase of intracranial pressure has no effect on the retinal vessels, but a sudden increase of such pressure may intensify a papillitis originating in some other way.

5. Distention of the sheath alone is probably not sufficient to cause papillitis by its mechanical effect, but may intensify the process otherwise set up.

In seeking to make a diagnosis as to the cause of papillitis in a given case, we must depend largely on the presence or absence of indications of disease of the brain, or of such disease of the general organism as is known to be accompanied by optic neuritis. A high degree of papillitis with intense strangulation is seldom met with except in cases of cerebral tumor and some forms of idiopathic papillitis. The slighter degrees of papillitis, not uncommon in cerebral tumor, chronic meningitis and other intracranial diseases, and the neuritis which occurs in Bright's disease, resemble each other closely. It is upon the presence of other symptoms that the diagnosis in disputed cases must rest. In considering cerebral disease as a cause, it must not be forgotten that papillitis due to a cerebral tumor may be unaccompanied for some time by any signs of intracranial disease, while on the other hand a papillitis due to some general organic disease may be accompanied by some symptoms suggestive of cerebral disease.

In *cerebral hyperæmia* there is no sufficient evidence to show that the vascularity of the disc participates in any transient cause of cerebral congestion, unless the whole head suffers. In most of the cases of long-continued vascular disturbance there are also signs of grave functional disturbance of the brain. The absence of any marked vascular alteration in the eye in cases of disturbed cerebral circulation is abundantly supported by the testimony of skilled observers.

Inflammation of the Brain.—We know nothing of any ophthalmoscopic changes in acute inflammation of the brain without meningitis. In so-called "chronic encephalitis" there may be very marked papillitis, similar to that found in cerebral tumor, due probably to the propagation of some irritative process from the brain along the nerves.

Gowers thinks that in the rare cases in which hæmorrhage or softening from embolism or thrombosis causes papillitis, the effect is probably produced through the agency of a secondary inflammation.

Hæmorrhages on the *disc* or in the *retina* are met with in a considerable number of cases of cerebral hæmorrhage. Their most frequent cause is the granular contracted kidney. They indicate the existence of conditions which favor degeneration and rupture of the vascular walls, and they are often associated with cardiac hypertrophy.

Disease of the kidneys and *gout* may explain the occurrence of papillitis when it exists alone, apart from other symptoms. Isolated double papillitis may be due to syphilis.

In *abscess of the brain*, papillitis resembling that due to cerebral tumor is often met with, but it is also frequently absent.

Tumors of the Brain.—Optic papillitis is *the* ocular lesion in intracranial growths. It is present in various degrees in a large proportion of the cases of tumor. It is not always possible to say on what the occurrence of papillitis depends. The position of the growth has apparently no direct influence on its occurrence, and the indirect influence depends upon the fact that the secondary meningitis at the base is more extensive when the tumor is not far from that part of the base. The nature of the growth does not influence the development of papillitis, for it may occur with all forms of intracranial growth. Slowly growing tumors seem to have less tendency to cause papillitis than those which grow rapidly. Hence we may conclude that intracranial tumors do not cause papillitis by the direct effect of their mass on the intracranial pressure. In most cases papillitis is a transient event in the history of a cerebral tumor, and is not a constantly associated symptom. A tumor may exist and cause symptoms of cerebral disturbance for some time, without leading to any changes in the eye. Papillitis may then be developed, run its course, and end in atrophy of the nerves, while the symptoms of the tumor continue for months or even years.

The appearance of the discs in papillitis due to tumor is that of papillitis in its most typical form. It is in most cases double, but often more intense in one eye than in the other. It is probably true that the occurrence of papillitis indicates progress in the growth of the intracranial tumor. If the progress of the latter is arrested or diminished, the papillitis usually subsides and may disappear completely.

The value of papillitis as an indication of the existence of an intracranial tumor is certainly very great. It may be the only unequivocal sign of the presence of organic cerebral disease. It may also give us signs on which to base a prognosis. A subsidence of papillitis may be regarded as indicating in most cases a retrogression of the growth, and a papillitis of very chronic course may indicate that the progress of the tumor is equally slow.

Papillitis of the usual type is frequently present in *hydatid cysts* of the brain.

The papillitis met with in *intracranial aneurysm* is probably a descending inflammation, extending to the nerve from the inflammatory process which always exists around an aneurysm.

In *simple acute meningitis* of the base papillitis may occur by direct propagation along the nerve. It is very rare in meningitis of the convexity.

In *tubercular meningitis* papillitis is very common.

Von Graefe regarded this form of nerve inflammation as a typical example of descending neuritis, the inflammation passing directly from the membranes to the optic nerves. It may, however, be a true papillitis, and is always double. The same may be said of *syphilitic meningitis* of the base, and of *traumatic meningitis*, though here papillitis is rare. *Meningeal growths* very frequently cause papillitis.

In diseases of the *cranial bones* papillitis may occur, but only as the result of meningitis and abscess. The same may be said of *injuries* to the *head*, and of *contusion* and *laceration* of the *brain*.

Diseases of the Nose and Sinuses of the Cranial and Facial Bones. — Some interesting cases have been reported in which papillitis coincided with a persistent discharge of a watery fluid from one or both nostrils. In most of these cases there were also symptoms of chronic cerebral disturbance. The most probable explanation of these cases is that there was an increased intracranial pressure as from internal hydrocephalus, and that the escape of the fluid relieved the pressure indirectly.

Diseases of the Spinal Cord.—Myelitis may be accompanied by papillitis. In *injuries to the spine* the changes in the disc are those of simple congestion with œdema.

Bright's Disease.—In the neuritic form of the intra-ocular complications of kidney disease papillitis predominates largely over the retinal changes. The arteries are usually narrow and often concealed, and there may be small white dots on the surface of the disc with hæmorrhages.

In *diabetes* changes in the fundus are rare, but there may be true papillitis, as well as retinitis with hæmorrhages. In this connection it is well to remember that papillitis and glycosuria may both be consequences of an organic cerebral disease.

Acute Anæmia from Hæmorrhage.—If the eyes of such patients are examined early in their course, signs of neuro-retinitis are commonly observed, sometimes very intense. Von Graefe held that in these cases there is a retro-bulbar hæmorrhage. Ulrich considers that the papillitis in these cases is due to a disturbance in the circulation of the papilla, and he attributes the later changes to the establishment of an abnormal relation between the blood-pressure and the vitreous pressure.

In *leucocythæmia* papillitis has been met with, and in some of these eyes which have been examined microscopically, the papilla was found swollen from œdema and infiltrated with leucocytes.

Sudden suppression of the menses has not infrequently been known to cause acute papillitis, and the same has also been seen in chronic menstrual irregularities.

Papillitis, with and without hæmorrhages, has also been occasionally met with in the eruptive fevers and in malarial fevers, independently of any renal complications.

A CLINICAL STUDY OF CASCARA SAGRADA

IN FIFTY UNSELECTED CASES.

By L. HARRISON METTLER, A. M., M. D.,

LECTURER ON MENTAL AND NERVOUS DISEASES AND ELECTROTHERAPEUTICS, AND LATELY CHIEF OF THE MEDICAL CLINIC IN THE MEDICO-CHIRURGICAL COLLEGE AND HOSPITAL, PHILADELPHIA.

The profession is by this time familiar with the valuable properties of cascara sagrada, but, as additional testimony is always desirable, I venture to present the results of a clinical study which I have made of the drug in some fifty cases of constipation dependent upon various causes. Constipation is the result of so many different factors and the cause of so many different symptoms that each individual case must be studied by itself. The host of nervous symptoms, the general feeling of distress, and the long train of dyspeptic disorders, with the anæmia and malnutrition that accompany a state of habitual constipation, are too well known to require more than a passing word. Constipation is never an unimportant matter for which the simple administration of a cathartic or "antibilious" remedy is all that is needed. It is not a disease, but merely a symptom; and, as symptoms vary in different individuals according to their habits in health and general constitution, so constipation in one individual may be considered a diarrhœa in another. Observation indicates that one stool a day, or even one in two days, is sufficient for the average state of health. Without considering those anomalies which frequently occur among women, where no action of the bowels takes place for weeks, months, and even years, it may be said that, when the fæces are retained longer than two days, the condition is one that needs positive attention.

As I purpose referring to cascara in its relation to the treatment of constipation, I will only touch upon those causes and conditions which this drug is capable of affecting; hence, all such causes as vicious habits, business occupations, and irregular modes of life, all cases that are amenable to surgical treatment alone—painful lesions about the anus, cerebral and spinal diseases, as well as fevers and the special diseases of the various organs with which constipation is always associated—will not be taken into consideration.

In a general way it may be said that constipation is the outcome of a modification in the condition and physiological activity of one or more of the three factors necessary to the normal performance of the functions of the alimentary tract. These are the lining membrane, with its abundant secretory apparatus; the involuntary muscles surrounding the gut; and the ganglionic nervous system, which controls both the muscles and secretory apparatus. I will endeavor to arrange some of the commoner causes of constipation which cascara sagrada may be expected to relieve under each of these three heads:

I. Deficient or Altered Secretion.

a. Diseases of the Liver.—Cases II, XXI. I have found cascara to be a mild cholagogue, particularly when administered in full purgative doses. It probably acts as a stimulant to the hepatic cells. The other intestinal glands are also stimulated to action. The stools are softer, sometimes becoming almost fluid, while their color is always turned to a dark or yellowish brown. In safe doses, cascara is never a hydragogue, nor can it be used for its cholagogue effects for any considerable time, on account of the unpleasant griping and the dangerous intestinal congestion which it is liable to give rise to by overstimulation. Cases are upon record in which its use was supposed to have caused reflex insanity, cerebral anæmia, cholera morbus with vomiting, and collapse; in all of these cases, however, there seems to have been an injudicious administration of the drug, or a marked idiosyncrasy on the part of the patient. I have never obtained these disagreeable symptoms. Senator places cascara between senna and rhubarb. In its effects upon the liver it is a more powerful cholagogue than senna, and more stimulating to the hepatic cells than rhubarb. I have usually exhibited the drug in cases of torpid liver, where mercury or podophyllin would seem to have been indicated, under the form of the fluid extract, instructing the patient to gradually increase the dose until a little soreness became perceptible over the abdomen. While my results confirmed the cholagogue properties of cascara, the degree of discomfort experienced forbade its further employment for this purpose.

b. Overstimulation by the Constant and Injudicious Use of Aperients.—There are many cases of constipation in which the patient has resorted so frequently to the use of laxatives and purgatives as to have almost paralyzed the glandular structures of the bowel by overstimulation. Most of the victims of constipation dependent upon other causes soon add this one also in their endeavor to cure what they ignorantly suppose is a disease, but which is really a symptom of a more deeply hidden trouble. These are among the most troublesome cases to treat, both on account of the obstinacy of the patient in still wanting to resort to his pet purgatives and on account of the congested and subacute inflammatory state thus kept up in the alimentary tract. Here I have found cascara quite available as an adjuvant to other treatment. It is mildly tonic as well as laxative, and, for the reason that the dosage may be gradually reduced as the affected glands and mucous membrane recover their wonted tone and function, it takes a place supplied by no other drug of its class. Time is an important element in the treatment of these cases, and it is wise to explain always to the patient the existing state of affairs and the results to be hoped for. I have frequently discovered that patients of this class who were beginning to be benefited by the use of cascara either discontinued the remedy too soon or were dissatisfied because their stools were not as large as those produced by the purgatives which had brought them into their existing condition. Human nature is a curious compound of impatience and willfulness. On the other hand, I have notes of many cases that were decidedly benefited and cured by the persistent use of the drug in conjunction with other appropriate treatment. Of course the patient's habits, hygienic surroundings, modes of eating, etc., were all attended to as a part of the general treatment; if they had not been, cascara alone would certainly never have accomplished the favorable results that it did.

c. Loss of Fluids in the Bowel by Excessive Perspiration, Lactation, Renal Disease, etc.—Cases XII, XLI. This cause of constipation has been much exaggerated: but now and then we meet with cases, with fairly good health, good appetite, and good assimilation, in which the heavy drain upon the blood caused by the excessive activity of the organs of secretion renders the bowel more or less dry and the fæces hard and impacted. The best method of treatment in such instances is by the regulation of the diet and the imbibition of more fluid. In not exercising their full functional powers the intestinal glands become gradually weakened, habituated to inactivity, and even to a greater or less degree atrophied. Under these circumstances a mild tonic stimulant, such as cascara, is an excellent adjuvant to general treatment. In the constipation of nursing women, consumptives, scrofulous, cachectic, and diabetic patients, cascara may be expected to give the happiest results. Here it furnishes the most desirable qualities of a laxative, as it may be administered for a comparatively long time in moderate doses without any deleterious effects being produced.

d. Congestion of the Mucous Membrane from Hæmorrhoids, Menstrual Troubles, etc.—Cases I. XIV, XXXIII, XXXV, XXXVII, XL, XLII. In several cases of dysmenorrhœa from various causes now under my care the cascara cordial has served as a most agreeable and efficient laxative tonic. In these conditions I employ the smallest possible dose, repeated three or four times a day, that will produce one easy evacuation in the twenty-four hours. In a case of hæmorrhoids in which it was administered the patient herself preferred it to any laxative that she had ever taken, and she had tried a large assortment of them.

e. Atonic Dyspepsia.—Cases VII, VIII, X, XX, XXII, XXIII, XXV, XXVI, XXVII, XXVIII, XXX, XXXII, XXXVI, XXXIX. My largest experience with cascara and most of its preparations has been with this class of troubles. Some of the cases were purely functional in character, others were the result of a gastric and gastro-duodenal catarrh. I am convinced that here the drug has its widest field of usefulness. I have notes of many cases of annoying and distressing forms of dyspepsia dependent upon simple atony of the glands and mucous membrane of the alimentary tract. After arriving at a careful diagnosis to exclude every other possible source of the general state of ill health, I begin by giving the patient explicit directions in regard to his food, manner of eating, exercise, and general mode of life. These instructions must receive first attention, a fact which in itself can not be too strenuously insisted upon, else no possible line of treatment will succeed in effecting a cure. At first I administer one of the stronger purgatives to clear the alimentary canal of all noxious material. Almost any of the ordinary cathartics will answer this purpose, but none is better than a full dose of castor oil followed by a small dose of one of the saline cathartics. A half pint of hot water about an hour before each meal, with perhaps now and then a pinch of soda added, will keep the lining membrane free of the mucus which clogs the mouths of the glands and prevents their products reaching the food during the process of digestion. Then just before each meal I give the fluid extract of cascara sagrada in doses of about ten or fifteen drops, sometimes in combination with nux vomica, gentian, columbo, iron, or other general tonic which the condition of the patient seems to require. When there is marked constipation I give the cascara cordial alone for a while in doses of a drachm to a drachm and a half three or four times a day. Iron can be very conveniently exhibited in combination with this preparation. It is particularly commendable for children and the aged, but for adults I have generally a decided preference for the fluid extract administered as above.

When first placed upon the market, considerable objection was raised against the fluid extract of cascara on account of its unpleasant bitterness and griping effect. It was discovered that this bitter taste was the result of the action of a ferment in the bark upon a glucoside principle, which is split into glucose and a vegetable acid, which again undergoes further decomposition. The griping is not caused by preparations made from the bark that has stood a while, hence Parke, Davis, & Co. have adopted the plan of only using the crude material after it has aged one or two years. With the use of their fluid extract—prepared, I am informed, in this way, and known as the "formula of 1887"—I have never had any complaints about the taste or griping when it was administered in the usual tonic doses.

II. Weakness and Degeneration of the Muscular Coat.

a. Anæmia and Chlorosis.—Cases IV, XLIII, XLV. Constipation engendered by bad habits is sometimes the origin of general anæmia; but more frequently it is the anæmia that gives rise indirectly to the constipation. In these cases the principal element at fault is the muscular coat, whose weakness is associated with vicious innervation. Those agents demanded of the blood by the muscles to stimulate them into action, to give them tone and strength, and to keep them at the normal tension, are found wanting; the consequence is, the muscles become weak and flabby and quite unable to respond to the proper nerve stimulus. It would be trite at this time to enter into the question of the administration of iron in these cases, but the fact must be noted that the indiscriminate exhibition of this therapeutic agent often does more harm than good. The majority of the cases of anæmia are not so much in need of iron as of the power of properly assimilating their food. To pour ferric preparations into such patients is like pouring oil on water; there is no union; the patient's general condition remains the same; the constipation becomes worse through the added effect of the iron and the subsequent anorexia; ill-disposition and nervousness produce such a repugnance to the taking of any more medicine as to preclude all further attempts at a cure. Physicians of large private practice, particularly among the idle and luxurious class, can abundantly testify to the truth of this picture.

The treatment of anæmia is proverbially unsatisfactory and at times completely discouraging. For this reason there have been instituted many methods of general treatment, such as exercise, massage, baths, electricity, as well as the administration of other drugs besides iron, and they have all occasionally given the happiest results. Cascara is not a remedy for anæmia, but as an adjuvant in the treatment I have had most gratifying proofs of its efficiency. The muscular and glandular structures of the bowel are improved by direct stimulation, thus causing an increase in the functional activity of the tract and a more complete absorption of the elements of the food needed for the maintenance of the bodily vigor. As I have endeavored to show in my brochure upon *The Biological Cell*, published in 1888, when sufficient pabulum is brought in association with the cellular elements of the body, and the latter are stimulated by the appropriate hygienic measures and therapeutic agents, the constructive metamorphosis proceeds at the normal rate and the patient enjoys a general state of health. Thus, both the primary and secondary assimilation need attention, but the secondary or cellular metabolism can not go on if the primary or intestinal is at fault. It is the stimulation of the secretory apparatus and of the muscular coat of the intestinal tract that renders cascara so valuable an adjuvant in the treatment of anæmia and the relief of the attendant constipation. With it the dose of the iron, when its administration is deemed desirable, need not be so large—obviously an advantage in more ways than one. The agreeable flavor of the cascara cordial makes the administration of the iron a matter of comparative ease with children and persons of fastidious tastes.

Cases of anæmia and chlorosis dependent upon faulty assimilation with torpor of the liver have been frequently benefited in my hands by the prolonged use of the cascara alone. For this purpose I prefer the fluid extract given three times a day in doses just large enough to produce one easy evacuation in the twenty-four hours. Sometimes four or five drops, repeated four or five times a day, have given the best results. After all, however, it must be remembered that most of the cases of anæmia and chlorosis are benefited more by hygienic general treatment, with the careful regulation of the food and habits of the patient, than by the administration of any medicine.

b. Cachexiæ, Wasting Diseases, Obesity, Pregnancy, Bad Habits, etc.—Cases III, VI, XI, XIII, XVI, XXXIV, XLIV, XLVI, XLVII. In all of these conditions cascara is useful in toning up the muscular system, as already explained. If one remembers that the drug is not a purgative, not a laxative pure and simple, but a stimulant, laxative tonic, exercising its physiological properties upon the ganglionic and muscular systems, he will recognize its advantages in those states in which the stronger purgatives are so frequently and injudiciously employed to relieve the constipation. In illustration of the dangers of giving purgatives in these cases of muscular wasting, Dr. W. W. Johnston refers to one seen by him where the colon was ruptured, giving rise to a peritonitis and resulting in death, all from the use of an active purge to bring on abortion. For the constipation of pregnancy, cascara is again valuable. I limit myself almost entirely now to this drug in these cases. The danger of abortion is slight, the appetite is stimulated, the general health maintained, and the bowels relieved daily by an easy "mushy" stool. I feel that I can not commend too enthusiastically the use of cascara in pregnancy. Small doses must be employed, and only in those cases where an idiosyncrasy exists, and in which the drug manifests a marked tendency to produce griping, need its employment be at all feared.

c. Paresis from Overdistention. — Cases IX, XXXI. By long habit of inattention to the bowels, the latter frequently become distended with fæcal matter to such a degree as to paralyze the muscular coat. This is a very common cause of constipation. In many instances a diarrhœa apparently alternates with the costiveness, though in fact the condition is one of constipation all the time. The overloaded intestines become so enlarged that they can be distinctly palpated through the abdominal walls. Sometimes complete sacs and separate enlargements along the course of the colon can be made out. Lining the inner sides of the intestinal walls is a hard, dry layer of fæcal matter, while through the center of the mass move the fluid contents which have become so excessive in amount as to discharge themselves all at once, and for several days keep the patient in a condition of diarrhœa. After this central liquid matter has been evacuated, the bowel resumes its quiescent state and constipation becomes once more the complaint. The chief trouble in these cases is the torpid, semi-paralyzed condition of the muscular coat of the intestine. The simple administration of purgatives fails to give permanent relief. Something must be done to awaken the activity of the glands and involuntary muscles. In this condition especially is it of prime importance that the bowels be "properly educated"; in other words, that the patient be instructed to attend regularly to the demands of nature. But this alone will not suffice. The muscles have become so weakened that scarcely any amount of voluntary exercise and attention to the habits will by themselves restore the lost power. Therefore, after first thoroughly sweeping out the alimentary tract with a full dose of castor oil or other vigorous cathartic, the cascara may be given daily in amount sufficient to produce a stool. At first the dosage will have to be large, but it will soon be discovered that this may be gradually diminished and the action of the bowels remain the same. After two or three weeks of this treatment the cascara may be discontinued altogether, and if the patient continues careful as to his habits, the cure will be permanent. Sometimes it requires months of patience and perseverance to secure the desired success. I I am not over-enthusiastic when I say that for these forms of chronic constipation, sometimes dry, sometimes strangely alternating with diarrhœa, I know of few drugs that can take the place of rhamnus purshiana employed in the manner just described. These cases are common enough and so familiar to physicians as to afford ample opportunity for testing the truth of these statements. Once or twice I have been obliged to administer an active purge after I had begun giving the cascara, but this was only because of the extreme chronicity of the trouble and its tendency to relapse.

III. CERTAIN NERVOUS CONDITIONS.

These sometimes give rise to constipation and its attendant evils, but will require only a brief word in connection with the use of cascara.

a. Mental Perversion.—Cases V, XVIII, XXIX, XLIX. In maniacal, delirious, and idiotic persons the bowels go unattended to, either through obstinacy or indifference. It is desirable in these cases to obtain the evacuation of the bowels with as little constitutional disturbance as possible. Furthermore, a tonic effect is highly advantageous if such can be secured with the laxative. Both of these qualities are possessed by cascara, and for that reason it recommends itself.

b. Heredity.—There are a few instances in which cure is absolutely impossible, because the type of constitution inherited by the patient prevents him acquiring the normal habits of others. These cases fortunately are rare and deserve sympathy. I can recall one where there was no physiological cause for the obstinate constipation, and where the patient conscientiously did all in his power to break himself of the habit. The trouble was characteristic of the family, and was clearly an inherited defect in the individual referred to. The ordinary purgatives would give temporary relief, but the strain upon the general health by their long and continued use was more intolerable than the condition for which they were administered. On account of its mild, stimulative effect and its perfect harmlessness when given in small doses for long periods of time, cascara might be recommended with advantage in these cases.

c. Diminished Sensibility and Perverted Function.—Cases XVII, XIX, XXIV, XXXVIII, XLVIII. These are probably the most common factors in the nervous origin of constipation. Whether the insensibility of the nerve filaments of the alimentary tract be caused by cerebral or, what is more frequent, spinal-cord disease, or by local overstimulation and distention, the inactivity of the bowel is the same and the vicious habit caused by the perverted function the result. Though cascara can only be employed here as an adjuvant to other treatment, it is nevertheless worthy of commendation. It assists in maintaining the function of the bowels until the appropriate nerve tonics and restorative measures have so far accomplished the return of the normal tone of the nervous system as to result in a return of the normal function of the alimentary tract.

Without wishing to transgress beyond the limits of a just enthusiasm for this recent addition to our materia medica, I have endeavored to briefly indicate from my own experience certain classes of cases in which the drug is especially commendable. I could have reported in full a large number of cases confirmatory of the above statements, but, besides being dull reading, they would have been mere repetitions of those which the busy practitioner sees almost daily; hence I have simply indicated some of them in the accompanying table. By no means is cascara a panacea for all cases of constipation. There are many patients with whom it would be but a loss of valuable time to continue its employment to the neglect of other more general and efficient means, such as electricity, massage, stimulant tonics, and other laxatives. It is well to remember that instances are upon record of violent vomiting and tormina, great prostration and feebleness lasting several days, acute insanity of reflex origin, and ecchymosis of the stomach, which were attributed to the use of cascara. In these cases, however, where there was no idiosyncrasy to account for the action of the drug, it seems not to have been taken as recommended, or else it was employed in the form of one of the older preparations. I have never myself seen or heard of any ill effects from the proper administration of Parke, Davis, & Co.'s fluid extract, "formula of 1887." One extremely obstinate case of constipation under my care, which had resisted all kinds of purgative medication and for which I ordered experimentally the cordial in gradually increasing doses, thought that such a "pleasant medicine" could not possibly affect her, and so took, upon her own responsibility, excessive doses several times a day. She discontinued only when she began to suffer with the severe griping pains. It would seem by this that even the agreeable qualities of a medicinal preparation may at times become one of its disadvantages.

It is in chronic constipation dependent upon indigestion and bad habits generally that cascara has afforded the happiest results. As a household laxative, agreeable to young and old, the cordial is an elegant and commendable preparation.

The fact that cascara is a *stimulant tonic* should never be lost sight of, in view of its laxative properties. As a laxative, pure and simple, it can not be compared with many other more useful medicaments of the pharmacopœia, but as a safe, reliable, gentle tonic, combining the effects of a mild laxative, it stands unrivaled. In the words of Eymeri, who wrote in 1885, *les Américains ont eu raison de célébrer les vertus du Rhamnus purshiana dans la constipation habituelle. Il y est en effet souverain.*

TABLE OF CASES.

No.	Patient.	Age.	Date.	Diagnosis.	Treatment.	Results and remarks.
I.	A. H., f.	40	1889. Mar. 27th	Menopause.	Liq. pot. arsenit., gtt. j; tr. nuc. vom., gtt. v; ext. fl. cascara, gtt. x.	Discharged May 5th; constipation cured.
II.	J. D., m.	16	Mar. 27th	Catarrh of bile ducts.	Ext. fl. cascara, gtt. x, gradually increased.	Stools became more regular for a time.
III.	M. S., f.	21	Mar. 4th	Anæmic cephalalgia.	Maltine and cascara; cannab. ind.	Somewhat improved; headaches less frequent.
IV.	L. L., f.	17	Feb. 20th	Anæmia.	Iron, nux vom., cinchon.; cascara, fl. ext., gtt. x.	Bowels became regular.
V.	M. I., f.	22	Mar. 3d	Epilepsy.	Bromide of gold, gr. $\frac{1}{10}$; cascara, fl. ext., gtt. x.	Bowels regular, but epileptic attacks the same.
VI.	P. C., m.	77	Mar. 6th	Neurasthenia.	Tr. nux vom., gtt. v; cascara, gtt. xv; tr. gent., ʒ j.	Bowels moved once a day; no griping.
VII.	J. G., f.	38	Feb. 8th	Gastric catarrh.	Tr. nux, gtt. v; cascara, gtt. xx; tr. gent., ʒ j.	Bowels moved two or three times a day; no griping.

No.	Patient.	Age.	Date.	Diagnosis.	Treatment.	Results and remarks.
VIII.	A. A., m.	37	1889. Jan. 14th	Atonic dyspepsia.	Mercurial pill; nux; cascara, gtt. xv; gent., ʒ j.	With warm-water enemata, bowels became regular.
IX.	A. B., f.	40	Jan. 17th	Constipated for two weeks.	Cascara cordial in increasing doses.	No improvement save a poor stool and much griping.
X.	M. L., f.	18	Jan. 24th	Atony of the bowels.	Cascara cordial, ʒ j, 4 times a day.	Constipation relieved.
XI.	C. R., f.	21	Jan. 4th	Atony of the bowels.	Cascara cordial, ʒ j, 4 times a day.	Constipation relieved.
XII.	M. T., f.	15	Jan. 4th	Bright's disease.	Used cascara cordial as the laxative.	Efficient, but patient preferred pil. rhei comp.
XIII.	M. T., f.	19	November	Chronic rheumatism.	Cascara cordial, ʒ j, 4 times a day for constipation.	Bowels moved daily.
XIV.	E. E., f.	35	May 23d	Dysmenorrhœa.	Cascara cordial, ʒ j, 4 times a day for constipation.	Bowels became regular and pain relieved.
XV.	E. R., m.	5	Feb. 6th	Urticaria.	Liq. potas. arsenit.; cordial, gtt. xxx, t. i. d.	Better the next day.
XVI.	A. S., f.	30	Feb. 17th	Pulmonary phthisis.	Ol. morrhuæ; ext. fl. cascara, gtt. xv.	Bowels became regular, and continued so when casc. was stopped.
XVII.	A. S., m.	33	Feb. 17th.	Atony of the bowels.	Ext. fl. cascara, gtt. x, t. i. d.	Patient had been irregular in habits; better.
XVIII.	E. B., f.	38	April 15th	Neurasthenic melancholia.	Ext. cascara fl., gtt. x; tr. gent., ʒ j.	Reported about the same.
XIX.	M. H., f.	....	April 15th	Paralysis agitans.	Ignatia, quinine; cascara cordial for bowels.	Quinine alone gave patient most comfort; bowels regular.
XX.	G. H., f.	25	Mar. 3d	Atonic dyspepsia.	Cascara cordial for constipation.	Bowels became regular in a few days.
XXI.	M. B., f.	50	Mar. 7th	Constipation.	Ext. fl. cascara, gtt. 8½; tr. berberis aqf., gtt. xx, t. i. d.	Slight improvement, but not easy stools.
XXII.	H. D., m.	38	Mar. 27th	Intestinal dyspepsia.	Regulated diet; nux vom.; cinchon.; cascara, fl. ext., gtt. x, t. i. d.	Bowels became more regular.
XXIII.	H. B., m.	22	May 15th	Neurasthenia and atonic dyspepsia.	General tonics; cascara cordial, ʒ j, 4 times a day.	Troublesome costiveness relieved.
XXIV.	F. B., m.	10	May 22d	Chorea.	Fowler's solution; cascara cordial, ʒ ⅔, t. i. d.	Bowels kept regular; chorea cured.
XXV.	M. K., f.	40	May 8th	Neuralgic cephalalgia.	Tr. cannab. ind., cascara, fl. ext., āā gtt. x; cinchon., ʒ j, t. i. d.	Patient declared that the best relief she had had for years.
XXVI.	S. C., f.	32	May 28th	Atonic dyspepsia.	Regulated diet; cascara, fl. ext., gtt. x to xv, t. i. d.	Occasional "bilious" attacks no longer appeared.
XXVII.	V., f.	Circ. 50	June 23d	Acute dyspepsia.	Calomel, bismuth, pepsin, etc.; cascara, gtt. x, t. i. d.	Bowels became regular, and general state improved in a few days.
XXVIII.	M. R., f.	20	June 10th	Neurasthenic melancholia.	Hypophosphites; cascara cordial, ʒ j, t. i. d.	Bowels became regular; general condition improved.
XXIX.	L. E., f.	40	May 7th	Hystero-epilepsy.	Amyl nitrite; valerian; ext. fl. cascara, gtt. x.	Constipation relieved.
XXX.	V., m.	Circ. 50	June 27th	Gastric catarrh.	Lactopep., gr. x; zinc. ox., ij; argent. oxid., ¼; cascara, fl. ext., gtt. x.	Bowels regular; less gastric distress.
XXXI.	L. H., m.	27	June	Constipation.	Cascara cordial, ʒ j, 4 times a day.	Daily evacuation, which continued as medicine diminished.
XXXII.	J. S., f.	38	April 30th	Neurasthenia.	Tr. nux, gtt. v; ext. fl. cascara, gtt. x; tr. cinchon., ʒ j.	Improvement.
XXXIII.	E. S., m.	54	May 29th	Hæmorrhoids.	Tr. ferri chlor., gtt. xv; ext. fl. cascara, gtt. x, t. i. d.	Reported, July 8th, much better.
XXXIV.	B. J., f.	10	June 10th	Infantile palsy.	Electricity; ol. morrhuæ; cascara cordial.	Slight improvement; bowels became regular.
XXXV.	W. S., m.	30	July 25th	Hæmorrhoids.	Ointment of gallic acid; tonics; cascara cordial, ʒ j, p. r. n.	Less pain and easier stools.
XXXVI.	M. M., f.	55	July	Atonic dyspepsia.	Maltine, pepsin, etc.; cascara cordial, ʒ j, t. i. d.	Marked improvement.
XXXVII.	C. F., f.	29	July 20th	Dysmenorrhœa and neuralgic headache.	Tr. cannab. ind.; cascara, fl. ext.; tr. cinchon.	Headaches have become less frequent.
XXXVIII.	E. R., f.	21	May 11th	Neurasthenia, anæmia, and headaches.	Glasses for eyes; hypophosphites; tr. cannab. ind.	Cascara, fl. ext., regulated the bowels.
XXXIX.	J. C., m.	29	Aug. 14th	Gastric catarrh.	Diet; Epsom salts; tr. nux vom., gtt. v; cascara, gtt. x; cinchon., ʒ j.	From once in three or four days, bowels moved daily.
XL.	A. S., f.	60	March	Hæmorrhoids.	Ext. cascara fl., gtt. x, t. i. d.	Likes the present laxative better than any ever taken.
XLI.	M. D., f.	25	October	Lactation.	Ext. cascara fl., gtt. x to xv, t. i. d.	Troublesome constipation relieved.
XLII.	C. T., f.	30	Nov. 3d	Neuralgic dysmenorrhœa.	Apiol; cascara, fl. ext., gtt. x, t. i. d.	Dose had to be reduced, as patient had several stools a day.
XLIII.	G. H., f.	26	Nov. 6th	Neurasthenia.	Ol. morrhuæ, baths, electricity, etc.; cascara, gtt. x.	Improvement.
XLIV.	B. P., f.	24	Oct. 24th	Pregnancy.	Cascara, fl. ext., gtt. vii, t. i. d.	Bowels regular.
XLV.	E. R., m.	5	Nov. 10th	Capillary bronchitis.	With special treatment, gave cascara cordial, ʒ ss., t. i. d.	Rapid improvement; bowels moved once a day.
XLVI.	E. T., f.	27	Nov. 12th	Strumous cachexia.	Ol. morrhuæ; cascara cordial, ʒ ss. to j, t. i. d.	Constipation relieved.
XLVII.	S. C., f.	52	Nov. 11th	Chronic bronchitis.	Ol. morrhuæ; hydrarg. chlor. cor., gr. $\frac{1}{30}$; potas. iodid., gr. iij; cascara, gtt. x.	Reported less cough and feeling stronger.
XLVIII.	E. J., f.	Circ. 40	Nov. 19th	Neuralgic cephalalgia.	Tr. cannab. ind., ext. cascara fl., āā gtt. x; cinchon. comp., ʒ j.	Patient's bowels would not move once in three days.
XLIX.	M. F., f.	39	Sept. 2d	Hysteria.	Cascara cordial, ʒ j, t. i. d., for costiveness.	Improvement.
L.	S. J., f.	....	Nov. 19th	Constipation.	Ext. cascara fl., gtt. x, t. i. d.	Patient had formed bad habit.

1938 North Broad Street.

REPORT OF FIVE CASES OF NEPHRECTOMY.*

By GEORGE RYERSON FOWLER, M. D.,
BROOKLYN,
SURGEON TO THE METHODIST EPISCOPAL HOSPITAL
AND TO ST. MARY'S HOSPITAL.

CASE I. *Hydronephrosis.*—Mrs. S., aged twenty-four, United States. This patient came under my notice April 4, 1890, with the following history: Since her earliest childhood she has suffered from a dull pain in the left lumbar region, with exacerbations of an acute character. During the past five years these latter have increased in severity, and an additional feature has been a marked diminution of urine coincident with the attack, and a sudden increase in the quantity of the same, as the attack passed off; the secretion presented a milky appearance coincident with the latter. Latterly the attacks have been of such frequency and severity as to render her an invalid, and to require large doses of morphine for relief of the excruciating pain.

Examination of the urine at the time of her coming under my observation revealed about five per cent. of albumin and the presence of pus. A marked increase of the phosphates was the only other prominent feature.

On May 12, 1890, under ether, my assistant, Dr. Chase, passed his hand into the rectum, the bladder having been previously washed out, and compression of the left ureter was attempted, for the purpose of ascertaining the existence of a right healthy kidney. The result of this attempt was negative, however, and an exploration of the left kidney was decided upon.

On May 19, 1890, a transverse incision was made in the left lumbar region and the kidney exposed. The latter was found to consist of but a large and thin-walled sac, with scarcely a trace of normal kidney structure present, so far as could be determined by this examination. The right kidney could now be palpated, and was judged to be normal. An aspirating needle introduced into the distended cystic kidney withdrew a considerable amount of milky fluid, with but a faintly urinous odor. The entire organ was now removed, the ureter and vessels being secured by separate ligatures of braided silk. The wound was partially closed by silk sutures and a large-sized drain of rubber introduced. Around the drainage-tube zinc-oxide gauze was packed, and an outer dressing of paper-wool applied. The patient reacted well, and during the first twenty-four hours passed eighteen ounces of urine, the first passed containing about the same proportion of albumin and pus as that secreted just prior to the operation. The subsequent specimens, however, were essentially normal in character, the specific gravity being 1·024, and the quantity increasing day by day until the twenty-first day, when it reached thirty-six ounces in twenty-four hours. At this time the wound had entirely healed, and the patient was discharged cured.

At last accounts the patient was four months pregnant. She has been married five years, but this is the first time she has conceived. The daily quantity of urine secreted has now reached forty-two ounces, of a specific gravity of 1·018, with an occasional trace of albumin and at times an excess of urates. Her pain has entirely disappeared, and she expresses herself as feeling comfortable in every way.

Examination of the specimen removed shows the following: The kidney is diminished in size, measuring 9 × 4½ × 4 ctm. The capsule is firmly adherent. The surface is rough and granular. The entire organ is occupied by a series of larger and smaller communicating cyst cavities, there being but little of the parenchyma remaining. Microscopical examination shows marked interstitial changes in the cortex.

CASE II. *Floating Kidney.*—Mrs. R. S., aged thirty-six, Canada. This patient was referred to me by Dr. Frank E. Wilson, of this city, with the following history: Four years previously she began to have attacks of sharp colicky pain extending from the left lumbar region and down into the groin, accompanied by a peculiar feeling of faintness. About the same time she discovered a tumor which was quite movable, became more prominent when she assumed the erect position, and which disappeared almost entirely when she lay down; it was likewise felt to move when she turned over suddenly in bed. The attacks of pain became more frequent and severe, and finally she was almost entirely incapacitated from attending to the ordinary details of her household duties. Various devices in the way of corsets, pads, and other apparatus were tried and abandoned. Finally Dr. Wilkinson, of Hamilton, Ontario, performed nephrorrhaphy, suturing the kidney by means of its capsule to the circumrenal structures with catgut. This operation was performed ten months prior to the time when she came under my observation. The patient experienced some relief following the fixation of the kidney, but in the course of four months the old symptoms returned, and in less than six months she had relapsed into her former condition.

As she presented herself to me, the patient was a tall woman of spare habit. She wore a look of constant pain, and, in order to avoid the suffering which any change in the position of the kidney occasioned, was compelled to lie upon her left side the greater portion of the time.

Examination reveals a left kidney which is exceedingly mobile, dropping down below the pelvic brim as she assumes the upright position. There is no difficulty in mapping out the right kidney in its normal position. The urine is found to be normal in all respects.

The patient was unwilling to permit another attempt to anchor the kidney in position, and expressed herself as very anxious to have the offending organ removed at once. Accordingly nephrectomy was performed on July 2, 1890, as follows: The usual oblique incision was made and the organ exposed. There was noted a marked absence of the perirenal fat in the depths of the wound. Traces of the previously performed nephrorrhaphy were found in the shape of cicatricial markings in the presenting portion of the capsule. No difficulty was experienced in isolating the kidney and ligating the pedicle in two portions, one ligature embracing the renal vessels, while the other secured the ureter. Braided silk was employed for this purpose. After removal of the organ the wound was sutured by means of silkworm gut and a rubber drain placed in position. Zinc-oxide gauze was packed about the drainage-tube and paper-wool dressings were applied.

The patient rallied well after the operation. She passed twenty-four ounces of normal urine the first day, and this steadily increased until in four weeks from the operation it had reached forty-two ounces, at which point it remained for two months. At the present time she is in good health and is gaining in weight and strength.

The kidney removed proved to be of normal structure and healthy in every respect.

CASE III. *Large Cystic Kidney.*—Miss P., aged thirty, United States. This patient first came under my care in the summer of 1889, complaining of a "lump in her side" and some obscure dyspeptic symptoms. When I proposed to investigate the tumor she demurred, and promised to return at some future time for examination. This she failed to do until nearly a year afterward, when the growth had attained a size to considerably incommode her, and she applied for relief. The growth was fixed in position, occupied the left lateral half of the abdominal cavity, but its connections could not be traced. The urine was of low specific gravity, but contained only a trace of albumin and no casts.

---

* Read before the Brooklyn Surgical Society, November 28, 1890.

She was admitted into the Methodist Episcopal Hospital on May 22d, and on May 24th an exploratory abdominal section was made. As the tumor was brought into view it was found to be covered by the posterior layer of the peritonæum. Further investigation showed it to be a large cystic right kidney, and having determined the existence of a left kidney, its removal was decided upon. The posterior layer of the peritonæum was incised on the outer side of the ascending colon, and the organ enucleated with great difficulty. The adhesions were extensive and very vascular, and it was only after repeated tappings of its many cysts and the withdrawal of the contents that the pedicle, consisting of the vessels and ureter, was reached and identified. These were ligatured with braided silk. Several bleeding points were grasped by strong forceps, but, owing to their depth, these could not be secured by means of the ligature, in consequence of which the forceps were permitted to remain *in situ*, and the edges of the opening in the posterior layer of the peritonæum were approximated to those of the anterior parietal layer in such a manner as to close entirely the peritoneal cavity and permit the handles of the forceps to emerge from the wound in the anterior abdominal wall. A glass drain was placed in position and the cavity in the retroperitoneal space, and around the tube and forceps packed with zinc-oxide gauze.

The patient came out from under the ether, and promised at first to make a good recovery. But it became apparent that the remaining kidney was not competent to perform its function. But three ounces of urine were passed during the succeeding twenty-four hours, and this was highly albuminous; symptoms of uræmia manifested themselves. She died on the fifth day following the operation, with complete suppression.

At the autopsy it was discovered that the remaining kidney was likewise the seat of cystic degeneration, although during the operation I distinctly felt the lower edge of the organ in an apparently healthy condition. But the portion reached at that time was found at the post-mortem examination to be the only part that simulated healthy structure, the balance being made up entirely of small cysts.

The organ removed presented the usual characteristics of the large cystic kidney of the adult, which had been converted into a vast number of conglomerated cysts of varying size. There were left unchanged scarcely any portions of the glandular structure, but there was a greatly increased bulk to the metamorphosed organ. The shape of the mass resembled somewhat that of the normal organ. It measured eleven inches and a half in length and about eight inches in width.

The capsule was bulged out in a number of places and many of the cysts themselves protruded on the surface as circular or oval, translucent sacs with very thin walls. These latter varied in size from a pea to that of an English walnut, and contained clear, pale, and straw-colored fluid in varying quantities.

The cysts did not communicate with each other, nor with the pelvis or calices; they were simply closed cavities with excessively thin walls.

Case IV. *Hydronephrosis.*—Mrs. F., aged twenty-four, United States. On November 2, 1890, Dr. D. M. Woolley requested me to visit this patient with him in consultation. He had been called to attend her three days previously, and obtained from her the following history: Since the age of fourteen she had noticed an enlargement in the right side of her abdomen, which varied considerably in size at various times, this being accompanied, as it became larger, by gradually increasing pain, until this latter became almost unendurable. As it attained its maximum size there would occur a discharge of milky urine, immediately preceding which the pain subsided and periods of relief varying from two weeks to several months followed. About five months previously the enlargement and pain were accompanied by sharp rigors, followed by high fever, which latter, together with the pain, finally subsided as the tumor decreased in size. She was not able to state whether or not the urine at this time presented any other than the usual milky character which had marked the subsidence of previous attacks of pain and swelling.

Dr. Woolley was called to attend her in an attack similar to the foregoing, and found her with a pulse of 160 and a temperature of 104° F. She was greatly exhausted with the pain and febrile disturbance, and threatened to collapse in spite of the prompt treatment which the doctor instituted. He at once established a connection between the attack and the tumor, and sought counsel in the case.

After a careful consideration of the history and an examination of the tumor, I had no hesitancy in pronouncing the case one of hydronephrosis in which a suppurative process had supervened. The urine contained 30 per cent. of albumin, but no casts. Pus, thoroughly mixed with the urine, was present. Digitalis, quinine, and alcoholic stimulants were ordered continued, in the hope of bettering the patient's condition before proceeding to operate. On the following day, in order to settle the question as to the source of the pus in the urine, the following expedient was resorted to: The bladder was thoroughly washed out with a solution of boric acid, and when the irrigating fluid came away perfectly clear, a portion of the same was set aside in a glass for comparison. The tumor was then manipulated for upward of ten minutes, after which the bladder was again washed out, and this washing, in another glass, was placed beside the clear fluid obtained after washing the bladder prior to the manipulation. The difference was marked, the last washing exhibiting a marked opacity as compared with the former. By this device I was enabled to obtain corroborative evidence of the tumor as being the source of the pus in the urine.

Nephrectomy by lumbar incision was done on November 4th, the second day following. The oblique incision, which was afterward extended vertically downward in order to obtain a greater working space, was made. Upon exposing the kidney, it was found to be greatly enlarged, and tapping was resorted to, in order to reduce its size sufficiently to permit of its withdrawal through the lumbar opening. It was found to be firmly attached upon all sides, particularly to the ascending colon at the point where the latter is not covered by peritonæum. After much difficulty, however, the organ was isolated and its vessels and ureter were secured by separate ligatures of catgut sterilized and hardened by boiling in alcohol. The wound was sutured with the same material, drained by means of a rubber tube, and packed with zinc oxide gauze. Dressings of paper-wool were applied.

The patient rallied well after the operation, and the pulse and temperature within the following twenty-four hours approximated the normal. Twenty-four ounces of healthy urine were secreted during the first twenty-four hours, and this quantity was exceeded daily as the case progressed. The patient rapidly gained in strength, and on the fourteenth day following the operation I dismissed her with the wound closed, save a small superficial granulating surface.

The organ removed presented the following characteristics: The kidney is increased in size, measuring 17 × 8 × 8 ctm. The capsule is not adherent, but the surface is nodular. There is very great dilatation of the pelvis and calices, so that the organ is composed of a number of cystic cavities with but little tissue separating them. Microscopical examination shows well-marked interstitial changes.

Case V. *Pyonephrosis.*—Mrs. E., aged forty-two, Scotland; no hereditary history. I am indebted to Dr. Heber N. Hoople, of this city, for this case, which was admitted into the Methodist Episcopal Hospital with the following history: Two years ago, having previously been in good health, she first noticed a dull aching pain in the left lumbar region, after which, at intervals, she suffered from attacks of dysuria and vesical irritability. The urine at these times, judging from the patient's account, contained pus. The pain continued unabated, and during the past summer she suffered for several weeks from an attack of fever, lasting several weeks, during which her life was despaired of. After a slow convalescence she left her home in Philadelphia and came to Brooklyn. Here she suffered a relapse, and was recommended to the hospital for treatment.

Upon admission, the patient is found to be in a weak and emaciated condition. She states that the emaciation has been progressive in character ever since the first onset of the symptoms above detailed. The urine is scanty, sometimes not exceeding sixteen ounces in the twenty-four hours. It is of low specific gravity and contains pus and 25 per cent. of albumin. There is harsh, high-pitched breathing, and prolonged expiratory murmurs at both apices. Her temperature ranges from 99·8° to 102°, the rise occurring in the latter part of the day.

Upon palpating the abdomen, a distinctly marked tumor was made out occupying the left hypochondriac and lumbar regions. It appeared to be somewhat larger than a large double fist, and was quite tender upon manipulation. An attempt to establish the fact that the pus came from the left kidney, after the method described in Case IV, was followed by negative results.

On November 15, 1890, nephrectomy was performed as follows: The oblique lumbar incision was employed, a vertical descending incision being added in the course of the operation. Extensive walls of indurated inflammatory tissue were found to surround the kidney upon all sides. This being incised, gave access to the organ, which presented a smooth appearance, but was found softened in several places. An aspirating needle, upon being introduced into the kidney structure and the exhaust applied, gave negative results upon the first four punctures. A fifth puncture, however, revealed an abscess cavity, which was emptied of but a small quantity of pus and *débris*. Upon incising this and introducing the finger, the kidney in its entire upper half was found to be disorganized and broken down. With great difficulty the organ was enucleated, with the exception of that portion which corresponded to the point of entrance of the vessels; this was found to be firmly adherent to dense tissues lying upon the posterior layer of the peritonæum. It was not considered prudent to attempt to rupture these adhesions, and, an attempt to throw a ligature around this part proving futile, a heavy curved clamp forceps was made to grasp the site of the ureter and vessels. The kidney was then removed piecemeal, the clamp being allowed to remain *in situ*. The wound was then partially sutured, the handles of the forceps projecting. Zinc-oxide gauze was packed around the clamp forceps and a dressing of paper-wool applied.

The patient recovered from the anæsthetic promptly, and rallied well from the shock. Considerable anxiety was occasioned by the fact that during the first twelve hours but three ounces of urine, and that of a turbid character, owing to the presence of pus, were secreted. The next specimen, of nine ounces, however, was of more encouraging appearance, and within the next five days she was secreting a larger daily average than before the operation, and that of a better character.

Prior to the operation the temperature averaged 102·5° F. for the twenty-four hours; after the operation it fell below 100° F., and thereafter remained essentially normal. The clamp forceps was removed on the sixth day. The wound granulated rapidly, and the patient quickly improved in health and strength.

The kidney removed presented the ordinary characteristics of a suppurating kidney. No tubercular bacilli were found to be present. A careful examination failed to reveal the presence of calculi in its tissues. At least three separate suppurating cavities were found; possibly some others had existed, but the structure of the organ was so broken down, owing to the difficulties incident to its removal, that such could not be identified.

I am indebted to Dr. Eugene Hodenpyle, pathologist to the Methodist Episcopal Hospital, for the preparation and accurate description of the specimens presented.

Correspondence.

LETTER FROM LONDON.

Koch's Treatment of Tuberculosis.—Mr. Jonathan Hutchinson's Lectures on Lupus.—A Successful Case of Nephrolithotomy following Nephrectomy.—Recent Deaths of Medical Men.

London, *January 20, 1891.*

The simultaneous appearance in last week's journals of Koch's long-promised statement of the constitution and mode of preparation of his fluid, and of the very unfavorable report of Professor Virchow on the application of the remedy in tuberculosis of the lungs, has aroused fresh interest in the subject, for it is an undoubted fact that already interest was beginning to wane in the great discovery. The benefits to be derived from the treatment in cases of lupus are quite indisputable, and have now been witnessed by scores of medical men in this country, but with regard to joint disease, and still more to pulmonary tuberculosis, it is different, and disinterested spectators have been for the most part unable to see the beneficial results which all would wish to see. It is evident that a much more prolonged and exhaustive study of its action in cases of phthisis must be made before any decisive opinion can be reached.

Mr. Hutchinson has opportunely chosen the subject of lupus for a series of three lectures in connection with the London Post-graduate Course. His first lecture, which was given last week, was On Lupus in General, with Special Reference to its Connection with Tuberculosis, and the general tenor of his remarks was to the effect that a bacillary origin was not proved in all cases of lupus, and that from a clinical standpoint the facts rendered it highly improbable that all true lupus was the result of contagion, while it was much more likely that it usually began in inflammatory action made peculiar by the special proclivities of the individual; but he acknowledged that subsequent pathological facts or the results of treatment with Koch's fluid might cause him to modify or alter his opinion. Mr. Hutchinson's subsequent lectures will be On Special Forms of Lupus and On the Prognosis and Treatment of the Different Forms of Lupus.

At the last meeting of the Royal Medical and Chirurgical Society Mr. Clement Lucas showed a patient on whom he had performed the operation of nephrolithotomy following nephrectomy for total suppression of urine five years previously, and he certainly deserves to be congratulated, not only on the brilliant success of his operation, but for having waited to publish the case until the permanence of the cure was beyond all possible doubt. The patient was a woman, aged thirty-seven, who came under his care in June, 1885. For seventeen years she had had hæmaturia at intervals; for nine or ten years this had been accompanied with pain on the right side of the abdomen, and for seven years a tumor diagnosticated as a floating kidney had been felt on that side. On July 14th the right kidney was removed by the lumbar incision; it was a mere shell containing masses of stone. She left the hospital within a month, and was able to return to her household duties free from pain and hæmaturia. On October 24th of the same year she was suddenly seized with violent and agonizing pain in her left back and loin, passing through the loin to the front of the abdomen and the groin. She passed a little urine soon after the pain came on, and then no more; half an hour later vomiting set in and continued. On the third day of total anuria Mr. Lucas saw her and advised her removal to the hospital, but, in deference to the views of his colleagues, it was not until the fifth day of total suppression that an operation was undertaken. She had then become drowsy, so that it was difficult to get her to answer questions; her pulse was weak, her temperature was 99° F., and she had become less sensitive to pain and was indifferent to what was passing around her. Ether having been administered, Mr. Lucas cut down on the remaining kidney and discovered a conical stone acting as a ball-valve to the top of the ureter. It was three quarters of an inch long and from three eighths to five eighths of an inch in diameter. Urine began to drop away out of the wound as soon as the pelvis of the kidney was opened, but the pelvis was not much dilated. The patient recovered well from the anæsthetic, and vomited once only after the operation. For twelve days all the urine was passed by the wound in the loin; then an ounce and a half was passed with great pain from the bladder, and the quantity gradually increased. After the nineteenth day all the urine was passed naturally. The patient's temperature scarcely rose above normal, and the wound healed in ten weeks. During the five years that had elapsed since the last operation the patient's health had been perfectly satisfactory.

The new year has begun badly so far as the medical profession is concerned. Mr. John Marshall, the president of the General Medical Council, an ex-president of the College of Surgeons, and consulting surgeon to University College Hospital, has died of bronchitis. He was a well-known man, both in the profession and out of it, and will be much missed in the artistic world, as he had been for many years professor of artistic anatomy at the Royal Academy. Mr. Edward Bellamy, the senior surgeon and lecturer on surgery at Charing Cross Hospital, succumbed to pneumonia after two days' illness. He was also well known in the artistic world, as he was lecturer in the Government schools at South Kensington on artistic anatomy. Dr. George Gulliver, the son of a deceased eminent surgeon, died of pneumonia at the comparatively early age of thirty-nine. He was assistant physician at St. Thomas's Hospital, and was generally believed to have a very promising career before him.

The Administration of Orexin.—"The value of this agent in promoting the appetite having been challenged in many quarters, Professor Benzoldt, who originally introduced it, has taken some trouble to account for its failures, and, curiously, has to confess that the source of failure appears to be due to the method of administration which he originally recommended—viz., in gelatin-coated pills. He agrees with Dr. Reichenberg in thinking that the orexin hydrochloride in some way acts upon the gelatin capsule or coating, so as to render it insoluble in the stomach. In accordance with these views, he now advises its employment in starch-paper wafers. The remedy seems to have given satisfactory results in the hands of Dr. Glückzegle and others."—*British and Colonial Druggist.*

THE
NEW YORK MEDICAL JOURNAL,
A Weekly Review of Medicine.
Published by D. Appleton & Co.
Edited by Frank P. Foster, M. D.

NEW YORK, SATURDAY, FEBRUARY 21, 1891.

A MURDEROUS LUNATIC AND HIS RESPONSIBILITY.

A medico-legal paper of more than usual interest to the profession was made public on the 10th inst. It consists of the report of a commission appointed by the Court of Oyer and Terminer of the State of New York to investigate and report upon the mental condition of James M. Dougherty, the man who shot and killed Dr. George F. Lloyd, an assistant superintendent at the Kings County Asylum at Flatbush, in October last. The trial of Dougherty was concluded recently and resulted in his conviction of murder in the second degree. However, when he was called up for sentence before Judge Bartlett, the man's demeanor and language were such that the judge was at a loss to know how to proceed; he withheld sentence until a medical commission should examine the murderer as to his present mental condition. Dr. A. J. C. Skene, Dr. L. C. Gray, and Dr. E. A. Lewis were appointed on that commission, and it is their report, signed by them all, that we are now to consider. This report has been criticised as not being a clear, sharp-cut decision of the murderer's mental state, because it admits his insanity but disallows his irresponsibility. This at first glance is taken to be self-contradictory and baffling, but the positions maintained in the report clear up the matter fully and leave no such impression on the medical mind. Medical men are too frequently brought into contact with cases of mental alienation, where the disorder trenches upon the authority of the mind at one or two points, but does not dethrone it, to be disturbed by this statement of facts. The writers of this report, we hold, had a singularly difficult case to bring into court fitly framed so as not to shock the legal and lay minds, which demand a "precise" definition, and display a due regard for such ancient dicta as declare that "all insane persons are irresponsible by the very reason of their insanity," and at the same time be true to their professional convictions. The axiom above quoted the commission controvert, but without argument, by simply saying that in their opinion the question of responsibility in this class of cases is still *sub judice*, and that it has never been generally accepted by the medical profession. They say: "The attitude of the profession toward the question has been one of expectancy rather than of positive opinion."

The nature of Dougherty's mental disease is designated as paranoia, characterized by the commingled delusions of persecution and expansiveness. He believed that he was the subject of a conspiracy, that he was a man of surpassing personal attractions, that many women, unsought, were enamored of him, and that by executing murderous vengeance upon a dozen or more physicians, witnesses, judges, and others who had to do with his confinement as a lunatic, he could arouse the world and institute a great reform. These delusions led up to the slaying of Dr. Lloyd, who happened to be the first one of his many proposed victims whom he encountered. Dougherty admits freely that in an ordinary legal sense the killing of Dr. Lloyd was wrong, and in many respects shows himself to be possessed of an intellect superior to that of the average man. He understood thoroughly the consequences of such crimes as those which he nevertheless deliberately planned to commit. He comprehended the nature, methods, and purport of his recent trial, the machinery of judicial attack and defense, and his individual rights as an accused and subsequently convicted person. Only by implication does this report pass upon the mental state of the murderer at the time of his evil act, for the reason that the conviction was a judicial deliverance on that point, with which the commission had no right or wish to meddle. But the intent and animus of the report are sufficiently clear to all medical readers where it says: "Your commission has been unable to perceive that this person's delusions and hallucinations marred in the slightest degree an unusually intelligent understanding of the trial—as much so as though he had been perfectly sane—although it is not within its province to offer any opinion of his comprehension of his act in killing Dr. Lloyd, as the jury have already passed upon that question. Your commission would further state that he is as dangerous a lunatic as it has ever been our fortune to encounter." In a word, says this report: Here we have a mind positively deranged, with its emotional nature sufficiently unhinged to make its possessor dangerous in whatever community he may be placed, and yet with the reason so far sound and unwarped as to make it responsible for its overt acts. This report will sound strange and even harsh to the ears of many who have had to do with medico-legal cases where the establishment of insanity has been deemed all-sufficient to a clearance of the accused person, but, unless we are mistaken, it will be a welcome sound to the majority of those who have given dispassionate thought to medico legal questions. At all events, let us have one grand accomplishment, as the sequel of the sad loss of Dr. Lloyd; let us have the dangerous Doughertys kept under effectual watch and ward, either as irresponsible madmen or as responsible criminals.

MODERN VENESECTION.

Were our grandfathers to arise from their long sleep and, like Holmes's Rip van Winkle doctor, visit the meetings of medical men, after they had been to the hospitals and seen the Koch treatment in full blast, they would probably nudge and wink at each other, say something about Perkin's tractors and John Long St. John Long and his cure for consumption, and then drop in to the meeting of the Royal Medical and Chirurgical Society of London to hear the discussion on The Therapeutical Value of Venesection. After the paper of the evening had been read, it is probable that they would come to the conclusion that modern therapeutics was not so very modern after all, and that in the ensuing discussion they would be well qualified to join.

Dr. Pye-Smith opened the proceedings with a paper on the Therapeutical Value of Venesection, its Indications and its Limits. Nearly fifty cases were recorded in which bleeding from the arm had been practiced. The patients were suffering from bronchitis, acute and chronic broncho-pneumonia, lobar pneumonia, miliary tuberculosis of the lungs, valvular disease of the heart and pericarditis, Bright's disease, aneurysm, apoplexy, and epilepsy. The remedy was then considered, not as one adapted to any single disease, but as useful in meeting certain indications of pathological states. These indications were stated as follows: First, cyanosis with distention of the right side of the heart, whether from pulmonary or from some other obstruction to the circulation; secondly, the intense pain (and we might add dangerous dyspnœa) of thoracic aneurysm; and, thirdly, uræmic and prolonged epileptic convulsions. The use of venesection in the first of these conditions specially commended itself to Dr. Stephen Mackenzie, who spoke upon the subject. When the patient was in great peril, with blue lips and a feeble, slow pulse, venesection did great good. In capillary bronchitis it gave relief and was sometimes curative; but it was in pneumonia that it often gave its best results. He cited a case of hæmoptysis in which cyanosis had been induced by blood running down into the bronchi; in this also venesection was followed by recovery. The indications for its use might generally be stated to be venous congestion, with a struggling right ventricle. In uræmia the results were not so satisfactory.

Dr. Broadbent could say that since he had been in practice there had not been a year of his life in which he had not performed venesection. He had employed it frequently in aneurysm, and in cases of right ventricular overdistention his experience had been good. He had seen life saved in both mitral stenosis and mitral regurgitation. In bronchitis with cyanosis an emetic was preferable. It should always be remembered that the right ventricle should be in a condition to profit by venesection—showing a strong impulse, with a small, almost imperceptible, irregular, short, low-tension pulse. His experience with uræmia had been favorable.

Altogether there is evidence enough to show that, although venesection is not a positively reliable remedy even in those conditions in which its use would appear to be indicated, yet that, as compared with many of our newly discovered drugs, its action is a means of relief in certain conditions by no means to be despised, and he who abandons the practice needlessly deprives himself of what may prove a useful agent in a moment of great distress.

MINOR PARAGRAPHS.

MORPHOLOGICAL FINDINGS IN THE TISSUES AFTER INJECTIONS OF KOCH'S FLUID.

The *Lancet* for January 17th gives an account of Dr. Browicz's microscopical studies of the tissues of the human body after injections of Koch's liquid, a full publication of which appears in the *Centralblatt für die medicinischen Wissenschaft-*

en, 1891, No. 1. The examinations were made of sections of tissue cut from various diseased parts sixteen hours after an injection. The conclusions drawn were: 1. That the changes occurring after an injection of Koch's liquid are different from the necroses to which such tissues are usually subject. 2. That a specific form of inflammation is induced. 3. That the inflammation causes destruction of the tuberculous tissue, and that this result is due to a distinct chemical action; also either that the tubercle bacilli may be carried away by the exudation or, if the disease is deeply seated, there is great danger of the organism being conveyed by the blood stream to the healthy tissues and so setting up local or general tuberculosis. Professor Virchow, before the Medical Society of Berlin (*Lancet*, January 24th), illustrated his address on the Koch remedy by the exhibition of a number of specimens taken post mortem from the bodies of twenty persons who had received injections for a longer or shorter period. Among the effects which he considered due to the injection was the occurrence of marked medullary proliferation, which took place in the lymphatic glands and in their vicinity. One of the cases presented this change to a considerable extent. On both sides of the ileo-cæcal valve, especially in the ileum, there were follicular ulcerations; around the ulcers and in parts where the ulceration had just begun, and also where the mucosa was still intact, there were circumscribed swellings. Peyer's patches and groups of follicles were converted into raised, whitish, medullary plaques, the surfaces of which were more or less ulcerated. The process differed essentially from that ordinarily seen in typhoid fever, for the ulcers had begun at several points, then rapidly become confluent, and gradually broken down in the center, a change often interrupted by direct sloughing, causing a rapid extension of the disintegration. In some parts, subjected to a stream of water, the surface presented a sieve-like aspect from the rupture or destruction of separate follicles. Some preparations were also exhibited which showed a quite recent submiliary eruption on the serous coat of the intestine in cases of phthisis. Another case showed perforation of the pleura, leading to pneumothorax, which had occurred rapidly after the injections were discontinued. Virchow added that in citing these cases he expressly desired not to impugn the remedy as such; it was a question, rather, of testing its employment.

GOLD AND MANGANESE IN TUBERCULOSIS.

On Tuesday evening last, before the Section in General Medicine of the New York Academy of Medicine, Dr. J. B. White, physician to Charity Hospital, read a paper on the therapeutic value of gold and manganese when subcutaneously administered to patients suffering from pulmonary or other forms of tuberculosis. He makes use of a solution each drop of which was said to represent one fiftieth of a grain of some salt or salts of the metals. For injection one or two drops of this are added to five or ten minims of a one-per-cent. solution of carbolic acid. The administration of the remedy is followed by a pronounced reaction in its general characteristics similar to that produced by Koch's liquid. Dr. White narrated the histories of a number of pulmonary cases treated by him at Charity Hospital, from which it might be deduced that the expectoration has been remarkably lessened in quantity, in one instance from fourteen ounces to two in twenty-four hours. An increase of appetite had been observed in all the cases. The improvement in respiration had not been so immediately apparent as the other evidences of general amelioration, but the patients had, nevertheless, all been more or less relieved in their breathing. One of the most encouraging results had been the decided effect upon the functions of nutrition, as shown by the increase of weight In one instance this had been as much as seven or eight pounds in a few weeks. Without exception, the patients had expressed themselves as feeling better under the treatment. The speaker, who was corroborated by several colleagues who had followed his experiments, said that he did not wish to be understood as urging any specific virtue for this remedy, but thought that further trial was likely to demonstrate its value as an adjuvant to the general treatment of tuberculous cases.

THE PHILADELPHIA POLYCLINIC.

From the printed description of the Polyclinic's new building, and from information furnished us by one of the officers of the institution, we gather that the building embodies at the outset all that has been found valuable in the faculty's own experience of improvised quarters, as well as in the best similar institutions elsewhere. The unfinished portion, which the faculty hope to erect shortly, will not only furnish needed extension of their facilities, but will enable them to introduce any supplemental features that may be found desirable. At present there is ward room for forty-one patients, with nine private rooms—an accommodation that will be about doubled by the addition. The equipment of each clinic, for which there was scanty room before, is now being admirably completed, each department having one room (of the group of three used in its work) specially devoted to its own apparatus, cabinet, and teaching appliances. Recent additions to the faculty have increased the opportunities afforded both within the walls and in the numerous and valuable hospitals of Philadelphia. The library is well supplied with standard works and journals, and evening courses of clinical and didactic lectures will, even more than in the past, supplement the more practical demonstrations of the regular course. The added stimulus of admirable surroundings is making itself felt in many directions, and much that was regarded as good enough before is now being greatly improved upon.

WHAT IS ORTHOPÆDIC SURGERY?

At the session of the Orthopædic Section of the Tenth International Medical Congress, at Berlin, Dr. Newton M. Shaffer, of New York, read a paper in which he defined orthopædic surgery as "that department of surgery which includes the prevention, the mechanical treatment, and the operative treatment of chronic or progressive deformities, for the proper treatment of which special forms of apparatus or special mechanical dressings are necessary." While holding that the orthopædic surgeon should be a good general surgeon, yet, he says, in the field of mechanico-therapy he will find abundant opportunity for the exercise of his talents without trenching on the ground of operative surgery. The wide and important field of mechanico-therapy is too often ignored in the college curriculum; and the length of treatment in these cases prevents students from taking the same interest in such patients as they take in those treated at the medical and surgical clinics. The writer makes a strong plea for the separation of the specialty from general surgery.

APPARENT DUPUYTREN'S CONTRACTION OF THE PALMAR FASCIA TREATED BY HYPNOTISM.

Dr. G. C. Kingsbury reports in the *British Medical Journal* for January 10th the remarkable case of a barber, aged forty-five, who had suffered from a gradually increasing contraction of the palmar fascia in each hand, the right hand having been more or less affected for twelve years, and the left for eight years. His father had had phalangeal contraction of the ring and little fingers of both hands, but the patient thought his own ailment was caused by the cramped position of his fingers in his work, though he was also subject to subacute rheumatism. A year preceding his visit to the physician, he had had to give up his business, as his hands were too painful to allow him to continue his work. Subsequently the contraction remained the same, but any manual effort produced pain; and if he grasped anything round, such as a broom-handle, his fingers became cramped and had to be put into hot water to relax the contraction. He was hypnotized by Liébeault's method until he became cataleptic; the fingers were then extended, and the palms rubbed freely in the hope of modifying the pain. The next day he reported that the pain was less and movement freer. The same treatment was repeated, and since that time the patient has had no trouble with the hands. Photographs accompanying the article show the appearance of the hands before and after the hypnotic treatment.

THE ALLEGED IMMUNITY OF DAGUERREOTYPISTS TO TUBERCULOSIS.

A correspondent of *Anthony's Photographic Bulletin*, who believes that the mortality by phthisis was exceptionally light among daguerreotypists in years gone by, proposes to institute an inquiry among the survivors of the now little-used method, daguerreotypy, in order to test the truth of his belief. His personal experience has led him to the opinion that the vapors developed by the use of iodine, bromine, and mercury in the dark room, forming the iodide and bromide of mercury in a nascent condition, together with the uncombined vapors of those chemicals, sufficed to prevent and cure tuberculosis among his fellow-craftsmen, and that those same agents may be turned to good account now for the destruction of the bacilli of Koch. Old daguerreotypers are invited to communicate their facts to the above-named journal.

ARSENIC IN TAPIOCA.

In the *Lancet's* New Zealand correspondence comes the news of a wholesale poisoning at Wanganui, caused by eating tapioca. The special consignment of tapioca was received by two separate grocers, who, unknowingly, of course, furnished the poisoned food to their customers. The patients all exhibited symptoms of poisoning by an irritant. Several cases were of an alarming nature, but no deaths occurred. The samples examined by the Government analyst showed the tapioca to be impregnated with arsenic.

THE SOCIETY OF THE ALUMNI OF CHARITY HOSPITAL.

At the last meeting of the society, on the 10th inst., Dr. Clarence C. Rice read a paper on Lupus of the Nose and Throat, and showed patients that had undergone the Koch treatment. A lively discussion followed the reading of the paper, and Dr. Rice's cases were generally considered as exemplifying the great value of the treatment. It must be remarked, however, that they can not have been under observation long enough to show any lasting effect.

THE DOCTOR IN GENERAL LITERATURE.

The doctor is every day becoming more and more a factor in modern literature, both as theme and as author. Among the new books, a little collection of verses called *Sea Moss*, by Dr. Lucy Creemer Peckham, of New Haven, Conn., is presented in creditable style, with a modest preface that calls forth our best wishes for the success of this particular literary venture.

ITEMS, ETC.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported during the two weeks ending February 17, 1891:

DISEASES.	Week ending Feb. 10.		Week ending Feb. 17.	
	Cases.	Deaths.	Cases.	Deaths.
Typhus fever	0	0	0	0
Typhoid fever	13	2	13	3
Scarlet fever	152	17	183	18
Cerebro-spinal meningitis	5	0	2	2
Measles	419	18	474	17
Diphtheria	108	36	109	32
Small-pox	1	0	0	0
Varicella	8	0	5	0
Whooping-cough	2	0	1	0

The Dispensary of Mount Sinai Hospital.—We have been asked to make the following announcement: Owing to the expiration of the term of service of sixteen physicians on the staff of Mount Sinai Dispensary, there will be the following vacancies on May 1, 1891: Internal male department, two classes; surgical department, four classes; internal female department, two classes; children's department, four classes; gynæcological department, two classes; eye department, two classes. Physicians desiring to apply to the Board of Directors for the positions can obtain the proper blanks from Mr. S. L. Fatman, Chairman of the Dispensary Committee.

The Harvard Medical Society of New York City, composed of graduates of the Harvard Medical School residing in New York, has recently been organized, with Dr. Rufus P. Lincoln as president, Dr. Paul F. Mundé as vice-president, Dr. Dillon Brown as secretary, and an executive committee consisting of the president, the secretary, and Dr. Frederic R. Sturgis, Dr. William J. Morton, and Dr. Henry C. Coe. Meetings are to be held on the first Saturday of each month, except June, July, August, and September.

The Nu Sigma Nu, a medical fraternity, held its ninth annual meeting at Detroit on the 13th inst. Alpha Chapter, of Ann Arbor; Beta Chapter, of Detroit; Gamma Chapter, of Philadelphia; Delta Chapter, of Pittsburgh; and Eta Chapter, of Minneapolis were represented. In the evening Beta Chapter gave a banquet in honor of the Grand Council. The next meeting will be held with Delta Chapter, at Pittsburgh.

The Brooklyn Surgical Society.—The special order for the meeting of Thursday evening, the 19th inst., was a Report of a Case of Penetrating Wound of the Abdomen, by Dr. H. Beeckman Delatour.

Another Sneak Thief.—Dr. Justin Herold, of No. 73 Seventh Street, reports having had articles stolen from his office recently by a man who called and expressed an intention to "wait for the doctor." He is described as about six feet in height, slim, having a black moustache, respectable in appearance, well dressed, and speaking first English and then German.

The Orange Mountain Medical Society.—The special order for the meeting of Friday evening, the 20th inst., was a paper on The Koch Treatment, by Dr. J. W. Stickler.

The Ricord Prize.—The French Academy of Medicine has been authorized to accept the late M. Ricord's legacy for a prize, to be awarded biennially, for the best essay on venereal diseases.

The New York Academy of Medicine.—At the recent annual meeting of the Section in Public Health and Hygiene, Dr. Henry D. Chapin was elected chairman, and Dr. S. T. Armstrong secretary.

The Death of Dr. John S. Messersmith, of the Navy, is announced as having occurred on the 16th inst., at his home in Lancaster, Pa. The deceased, who was eighty-one years old, was retired in 1872, as a medical director with the rank of commodore. He entered the service in 1837, and took part in the Mexican War and the War of the Rebellion.

Society Meetings for the Coming Week:

MONDAY, *February 23d:* Medical Society of the County of New York; Boston Society for Medical Improvement; Lawrence, Mass., Medical Club (private); Cambridge, Mass., Society for Medical Improvement; Baltimore Medical Association.

TUESDAY, *February 24th:* New York Academy of Medicine (Section in Laryngology and Rhinology); New York Dermatological Society; Buffalo Obstetrical Society; Boston Society of Medical Sciences (private).

WEDNESDAY, *February 25th:* New York Surgical Society; New York Pathological Society; American Microscopical Society of the City of New York; Medical Society of the County of Albany; Auburn, N. Y., City Medical Association; Berkshire, Mass., District Medical Society (Pittsfield); Philadelphia County Medical Society.

THURSDAY, *February 26th:* New York Academy of Medicine (Section in Obstetrics and Gynæcology); New York Orthopædic Society; Brooklyn Pathological Society; Roxbury, Mass., Society for Medical Improvement (private).

FRIDAY, *February 27th:* Yorkville Medical Association (private); New York Society of German Physicians; New York Clinical Society (private); Philadelphia Clinical Society; Philadelphia Laryngological Society.

SATURDAY, *February 28th:* New York Medical and Surgical Society (private).

Letters to the Editor.

JAVAL'S OPHTHALMOMETER.

27 WEST THIRTY-FIRST STREET, NEW YORK, *February 11, 1891.*

To the Editor of the New York Medical Journal:

SIR: In your issue for February 7th, in the communication from Dr. J. H. Woodward on Muscular Asthenopia, the writer maintains that Javal's ophthalmometer "does not simplify the problem" of determining astigmatism, and that it is "not more trustworthy."

As to the chief point of his interesting article—*i. e.*, "muscular asthenopia"—it is not my purpose to write, but in regard to the ophthalmometer his experience has been decidedly different from my own, and also from that of many others who have used the instrument. I have found that it is not only a great help in determining the degree of astigmatism, but also the axis, and that the results obtained with the aid of this instrument are far more satisfactory and certain than without it.

The objection that one "must have become very skillful" in its use applies as well to other instruments, such as the ophthalmoscope, the otoscope, the laryngoscope, and many others which are in daily use. It is true that one must have a certain amount of practice in order to be sure of his results, but the difficulties to be overcome and the practice required are small as compared with those which the beginner with the ophthalmoscope meets. As to the accuracy of the measurements, we have had ample opportunity of testing. Those of us who have employed the instrument at the Manhattan Eye and Ear Hospital, where it is in daily use, are convinced that it is to be relied upon completely. Not only at this hospital, but also at others, and in the private practice of many oculists, has the instrument given great satisfaction.

It is a more rapid and certain method of finding the axis and degree of astigmatism, and in very many cases avoids the use of atropine, which, to be properly used so as to completely paralyze the accommodation, necessitates the patient's giving up all use of his eyes for several days. That it does not tell us whether there is myopic or hypermetropic astigmatism is no objection to the instrument, for this can be readily determined by the test lenses and by the ophthalmoscope, and only in very low degrees need there be much difficulty without atropine.

I think that it is the experience of many besides myself that the longer the instrument is used the more satisfactory it becomes, and those who have used it longest are most positive as to its utility.

The corneal astigmatism is, of course, all that can be measured by this instrument, but the lenticular astigmatism is in only a few cases of enough importance to be considered.

The careful and accurate arrangement of the lenses and prism is all that can be desired in an exact instrument, and every one who makes thorough and constant use of it will be convinced of its great value. It is by far the most useful instrument that has been placed in the hands of oculists since the invention of the ophthalmoscope. FRANK N. LEWIS, M. D.

Proceedings of Societies.

NEW YORK ACADEMY OF MEDICINE.

SECTION IN SURGERY.

Meeting of January 12, 1891.

Dr. ROBERT ABBE in the Chair.

Removal of Hypertrophied Prostate.—Dr. R. F. WEIR showed a patient, a middle-aged man, from whom he had removed a hypertrophied median lobe of the prostate gland. The man had been for a long time in the habit of using a catheter, which had at length broken, leaving a portion of it in the bladder. Symptoms of stone had subsequently developed, for which the speaker had performed suprapubic section, and had extracted from the bladder a good-sized stone of which the broken catheter had formed the nucleus. On illuminating the interior of the bladder he had discovered a projected enlargement of the median lobe of the prostate gland which he had removed. The resulting hæmorrhage had been checked by lessening the pressure of the water-bag distending the rectum. The bladder was then packed with iodoform gauze. The case had gone on to a complete and satisfactory recovery, with entire restoration of the normal functions of the parts. In the event of his having to do this operation again, he should make use of the tonsillotome in preference to any other cutting instrument in removing the glandular enlargement.

Dr. WILLY MEYER said that he had been called to a patient fifty-six years of age who was unable to pass any urine and through whose urethra no catheter could be got. He had temporarily relieved him by suprapubic puncture, and had afterward opened the bladder and found immense hypertrophy of both lateral lobes of the prostate. These masses, which were the size of fists, he had removed by the cautery. The bleeding was profuse. The bladder was packed with gauze and a T-tube introduced. His patient had made a perfect recovery. In this case it had been a question with him whether he should allow the bladder to heal, but, as there were symptoms of pyelitis, probably of both sides, he had thought it better to allow the man to empty his bladder through a tube for a time.

Dr. A. G. GERSTER said that it was not always that cases of operative interference with the prostate gland were as successful in their issue as that reported by Dr. Weir. Half the patients in whom the middle lobe was removed did not recover to such a degree. This was due to the fact that the contractile powers of the bladder were gone. The removal of the lobe could not restore the muscle. The operation was not always a proper one, and great judgment was called for in the proper selection of suitable cases.

Trephining for Epilepsy, with Reimplantation of Bone.—Dr. Weir also presented a man fifty years of age who had suffered for a number of years with frequently recurring epileptic attacks, resulting from a depressed fracture of the skull. A primary operation had been performed which had been of direct benefit, but, as the patient had complained of constant pain, a second one was undertaken, in which a very extensive flap was raised and three buttons of bone were removed. These were replaced, and the interstices filled with bone chippings. The result of this part of the procedure was good, firm union, with the exception of a small point of softening, at which pulsation could be felt. The epileptic seizures had been reduced from several each day to about one a month, and the patient was now able to attend to his business. This was the usual outcome of all operations for epilepsy of this character; improvement might be looked for, but very seldom cure.

The Chairman thought that, in the class of epilepsy to which reference had been made, repeated trephining was likely to be of direct benefit. He had operated upon a case about a year ago, and had relieved the patient from an impending condition of insanity, in which there had been half a dozen maniacal seizures a day. It had been six months before a recurrence had taken place. The patient was then put into an asylum. Repeated operation might have been of signal utility in this case.

Dr. Gerster asked if Dr. Weir had ever had the misfortune to injure the dura with the trephine in these operations.

Dr. Weir replied that he had, and he supposed this was the experience of all surgeons.

Dr. Gerster said he had asked the question because he wished to urge his opinion that the trephine was an inadequate instrument, and that its use was always fraught with this danger. He advocated the use of the chisel in preference. By using the chisel and saving the chips, and then replacing them, perfect restitution had resulted in every one of the many cases in which he had followed this plan. After trephining, it was, as Dr. Weir had indicated, not a good thing to replace the button wherever the existence of intracranial pressure was possible. It was better to leave an aperture for subsequent exploration.

Dr. Weir said he had seen no ill effects from the use of the trephine when employed with care, but he had seen the chisel go through and impinge so hard upon the dura as to certainly cause trouble beneath.

Biliary Calculus.—Dr. Gerster then showed a patient, thirty-one years of age, from whom he had recently removed a large number of gallstones. The patient was the mother of four children, the last of whom was born ten months ago. Three years since, the woman had undergone Alexander's operation. At about that period she had had an attack of abdominal cramps lasting a few days. Some six months before coming under observation she had been taken down with violent pains in the hypochondriac region and had felt the presence of a lump, which became reduced in size upon the application of ice. She had continued to have a constant slight pain in the same region. She had several of the acute seizures. In August of last year the speaker had operated. He had made a transverse incision, three inches long, over the tumor. The tumor was not found to be adherent to the abdominal walls and was demonstrated as being the gall-bladder. The parietal peritonæum was then stitched to the sides of the sac and the latter incised. It contained sixty-seven stones, a large one being found in the cystic duct. The cut edges of the sac were then sutured to the abdominal wall with silk. The wound on either side was closed with silkworm gut. A small tube was left in the gall-bladder, projecting below the dressings. Though the patient bore the operation well and the subsequent irrigation of the bladder with Thiersch's solution was faithfully carried out and thorough drainage effected, the discharge had remained purulent and tinged with bile and the patient had complained of pain in the abdomen near the wound. Sometimes this pain was so severe that anodynes had to be given. Upon the removal of the tube, and probing, the distinct click of a stone was made out. A tupelo tent was then inserted into the opening. On the removal of the tent two more stones were got out with the forceps, another was crushed and extracted, and still another was felt but could not be got out. This pain had continued until, probably as the result of some manipulation, the stone had become dislodged, and from that time the patient had been free from all discomfort, the gall-bladder and external wound had entirely healed, and she was rapidly gaining flesh.

Total Extirpation of the Larynx; Artificial Larynx.—Dr. Willy Meyer exhibited a patient sixty-five years of age upon whom he had recently operated, removing the entire larynx, for an epitheliomatous growth. The history of the case and steps of the operation had been given in detail before the New York Surgical Society. The man was now wearing one of Gussenbauer's artificial larynx tubes. As this had only been in place fourteen days, the patient, although already able to articulate and make himself understood, could not do so as well as he undoubtedly would, by reason of the non-closure, at present, of a small part around the tube, which allowed some escape of air. The speaker thought that the larynx he had adjusted would amply meet the needs of a patient of this age.

Recurring Luxation of the Lower Jaw.—Dr. W. R. Townsend showed a case of recurrence of bilateral dislocation of the inferior maxilla which had been going on for about four years. The only history was that about this time the woman had visited a dentist, soon after which the luxations had commenced. At the present time the bone would become dislocated whenever the patient made use of consecutive sentences with any degree of rapidity. Sometimes the displacement occurred during sleep. She had now acquired the art of replacing the dislocation herself by opening the mouth still wider and then slipping the bone back into place.

Congenital Luxation of the Patella.—Dr. Townsend then presented quite a remarkable case. He placed a young colored girl in a chair upon the platform and, baring her left knee, he stated that she had suffered from what was said to be congenital dislocation of the patella of that joint. As she grew up the patella would become spontaneously dislocated, either on one side or the other, whenever she attempted to run. But this was not all; she was capable also of causing the dislocation by voluntary muscular effort when the leg was extended. As she had been for some time under treatment, this power was lost as to the inner side. He then directed the girl to effect the dislocation, when, to the astonishment of everybody, and apparently without the slightest effort, she shot the patella to the outer side of the joint, and brought it back into position, repeating the performance at will.

Secondary Colles's Fracture.—Dr. F. B. Curtis showed a patient, a carpenter, forty-one years of age, who had sustained a Colles's fracture of the radius on October 15th last, and been treated with splints by Dr. C. A. Powers for five weeks. He had gone back to work December 8th, and two days later, fifty-five days after the original accident, while ascending a ladder, feeling himself falling and missing his hold with the sound hand, had grasped the ladder with the injured hand and saved himself from a fall, but had felt something snap and found that he had broken the radius again. Dr. Curtis saw him and found free mobility and crepitus at the usual site of Colles's fracture, and apparently exactly in the line of the former injury. It was now about four weeks since the second accident and there was fair union. The case was presented on account of its great rarity, for the violence was too slight to have broken a sound bone. The patient gave no evidence of syphilis or any other constitutional disease.

For the ensuing year Dr. W. T. Bull was elected chairman of this Section, and Dr. C. A. Powers was re-elected secretary.

SECTION IN GENERAL MEDICINE.

Meeting of January 20, 1891.

Dr. Francis Delafield in the Chair.

Phthisis; its Classification, Early Diagnosis, and Relation to Chronic Pneumonia.—This was the title of a paper by Dr. R. C. M. Page. Phthisis, the author said, as now generally understood and accepted, not only signified tuberculosis, but, unless otherwise specified, implied pulmonary tuberculosis, the germ of which was Koch's tubercle bacillus. It might be acute or chronic, but, whether its progress was slow or rapid, or whatever form it might assume, there was but one phthisis, and that was tubercular. The pathology of acute and chronic forms was then fully dealt with, and the various theories in regard to each were enlarged upon. The author thought that the prognosis of either form of chronic phthisis, catarrhal or fibroid, depended much on an early diagnosis. He then went into the question of the earliest signs by which this disease could be recognized. If the top of the left lung was affected, it was much easier to make an early diagnosis than if it was on the right side, since in health the patient already had exaggerated fremitus and pectorophony on the right side, as well as slight dullness on percussion, and rude, or vesiculo-bronchial, respiration. These four signs of incomplete consolidation were seen in incipient phthisis, if they occurred on the left side. In addition to these, therefore, some localized adventitious sound was necessary. As chronic phthisis of either form usually began as a localized tubercular capillary bronchitis, the first adventitious sound usually heard was the subcrepitant or mucocrepitant râle. Any localized adventitious sound, however, in a suspicious case would aid in a diagnosis of phthisis, whether it was the mucous click, an intrapleural râle, or the like. Frequency of the pulse and loss of appetite were also among the earliest signs. Hæmoptysis, if it was not explained by the presence of heart disease, would be almost conclusive. If the bacillus was found, that, of course, would be sufficient evidence of the disease; but the question was, were we to wait until it was found before we were justified in resorting to improved methods of treatment, involving, perhaps, the sending of a man away from his business and connections? The various methods of treatment, including prophylaxis, for those predisposed to phthisis, and the recently much-talked-of inoculation method, were fully gone into. The author said that sufficient time had not yet elapsed to say what was the value of this remedy of Koch's. But, suppose that all was true that could be alleged for it, the importance of an early diagnosis and the prompt application of the remedy was evident. For, when loss of important tissue and disease in other organs had occurred through ulcerative and other processes, there still remained pressing considerations regarding treatment, even after the bacillus had been driven from the field.

Tuberculosis in Children; Primary Infection of the Bronchial Lymph Nodes.—Dr. W. P. Northrup read a paper on this subject. (See page 201.)

Dr. J. W. Roosevelt said that tubercular infection of the bronchial glands in the adult was very common in connection with phthisis, and seemed also to be more common independently of pulmonary tuberculosis than was generally supposed. Of course, in cases of phthisis it was impossible to say that the infection of the glands was either primary or secondary. He thought it was time to abandon the idea that tubercular infection of the pulmonary parenchyma was usually the result of inspiration of the bacilli directly to the seat of the lesion.

Dr. William H. Thomson remarked that for a long time past it had seemed to him that, on account of the frequency of early tuberculosis in the upper lobes of the lungs, there must be some connection between them and the bronchial glands. He had, however, looked at the matter merely from a theoretical point of view; but it was now easy to understand the relation that those glands bore to infection of the apex of the lung. Signs of the very early implication of the bronchial glands, he said, were not infrequent in the phthisis of adults. One of his first cases of the kind had been that of a gentleman above forty years of age, who, with a slight cough and dullness at the right apex, was soon troubled with severe dyspeptic symptoms and then with intractable vomiting. Great hyperæsthesia of the pharynx supervened, and soon complete aphonia, which could not be accounted for by the appearance of the vocal bands, which were but slightly congested and were never ulcerated. Between the scapulæ, however, the bronchial breath sounds were much exaggerated, and the speaker had pronounced his gastro-laryngeal symptoms as most probably due to enlarged bronchial glands pressing on the pneumogastrics, and had said that in time he would regain his voice by the softening of these indurated glandular masses. His voice perfectly and rather rapidly recovered twenty-two months afterward, and his gastric troubles simultaneously improved; but soon after this he was seized with a most agonizing sciatica in both legs, which proved to be due to the formation of a psoas abscess, to which he ultimately succumbed. Since that time the speaker had met with several cases of similar vomiting before the formation of vomicæ in the lungs, occasionally accompanied with palpitation of the heart and laryngeal symptoms, both in private and in hospital practice, and he had accordingly insisted in his college lectures that the most effective means of controlling early vomiting in phthisis was repeated dry cupping between the scapulæ.

The Chairman thought that all our studies in regard to tuberculosis had been tending in the direction indicated by Dr. Northrup, and that, whether the bacilli were inhaled or swallowed, they found their way into the lymph glands, or lymph nodes, and that the tubercular inflammation or other pathological process was secondary to this primary invasion of the lymphatic system. The author had brought forward some very satisfactory evidence which, to the many minds at this time prepared to receive it, would prove conclusive.

Book Notices.

The Micro organisms of the Human Mouth. The Local and General Diseases which are caused by them. By Willoughby D. Miller, D. D. S., M. D., Professor at the University of Berlin. With One Hundred and Twenty-eight Illustrations, One Chromo-lithographic and Two Photo-micrographic Plates. Philadelphia: The S. S. White Dental Manufacturing Company, 1890.

As the author very truly says, the exact methods of bacteriological investigation now in vogue have led to discoveries in the domain of dental and oral pathology that are of the greatest importance, not to the dental surgeon alone, but equally to the practitioner of general medicine. In the first chapters of this volume an outline of the morphology and biology of bacteria is given, the various nutrient media for bacteria in the oral cavity are considered, and a description of the methods of bacteriological investigation precedes the chapters on the biological study of the bacteria of the mouth, and their action as exciters of fermentation.

The stagnation of depraved juices about the teeth; disturbances of nutrition; inflammation; putrefaction; the presence of worms; chemical, parasitic, and electrical decomposition, as well as some minor factors, have been advanced as the causes of dental decay. The author has, by a series of experiments, proved that the chemical and electrical theories are insufficient to explain all the phenomena, and that this decay is "a chemico-parasitical process consisting of two distinctly marked stages—decalcification, or softening of the tissue, and dissolution of the softened residue"—seems to be established by the evidence of numerous examinations of sections of teeth. An examination of crania shows that a deterioration of the teeth accompanies the progress of civilization; apparently dental decay may be restricted by a mode of life favorable to the development of the whole body by the use of food that is sufficiently hard to afford the teeth the exercise necessary for their vigorous development, such food being selected as does not undergo an acid fermentation in the mouth.

Under the heading of Prophylaxis for Dental Decay, the various germicides are briefly referred to; and the antiseptic influence of various filling materials has been made the subject of experiments that show that copper amalgam exercises an inhibitory influence on germ growth that surpasses that of any other substance.

The pathogenic mouth bateria and the diseases that they produce are treated of at length.

The author has made many experiments to ascertain the facts that he presents, and a free reference to the work of other students of the subject sustains his position or gives reason for his opposition. The volume is admirably illustrated, and, as the only work in the English language on this particular topic, is deserving of wide popularity, not only among doctors of dental surgery, but among doctors of medicine.

Les microbes de la bouche. Par le Dr. Th. David, Directeur de l'école dentaire; chirurgien dentiste des hôpitaux de Paris. Precédé d'une lettre-préface de M. L. Pasteur. Avec 113 figures en noir et en couleurs dans le texte. Paris: Félix Alcan, 1890. Pp. xv–302.

The author begins with an historical survey of the subject of micro-organisms of the mouth by a reference to Leeuwenhoek's description, in 1683, of the animalcules he found in tartar from the teeth, and he then notes the meager references to the subject from that day until in the study of the habitat of micro-organisms the mouth received the attention of the bacteriologists of our era.

The form of microbes, their movements, structure, modes of reproduction, and varieties, their formation of ptomaines, the methods of cultivating these organisms, their detection in the mouth or saliva, and their microscopical preparation are sufficiently well presented. The non-pathogenic and pathogenic micro-organisms found in the mouth are considered separately, and the changes produced in the tissues of the mouth and in the teeth by pathogenic microbes are described with care. The sections on The Antiseptic Treatment of Dental Caries and on Fœtor of the Breath are well written; and the various formulæ for antiseptic powders and liquids will undoubtedly be of service to many readers.

The special value of this work, not only to dentists, but also to physicians, is in the attention it directs to the fact that a solution of continuity in the mucous membrane of the gums or cheeks or in the enamel of the teeth affords a focus for the development of the various micro-organisms that are constantly present in the mouth, and that, in consequence of this ever-present contingency, oral antisepsis must be a matter of daily care.

The work is generously illustrated, many of the engravings being colored; and the author's simple style commends the volume to those who are but slightly acquainted with the language in which it is written.

Étude anthropométrique sur les prostituées et les voleuses. Par le Docteur Pauline Tarnowsky. Avec 8 tableaux anthropométriques et 20 dessins. Paris: E. Lecrosnier et Babé, 1889. Pp. v–226. [Prix, 5 francs.] [Publication du *Progrès médical.*]

This is a thoroughly conscientious study of the ætiological, physical, and psychical conditions of a hundred and fifty prostitutes at the Kalinkine Hospital, and of a hundred thieves at the Litowski Zamok Prison, as compared with similar conditions in equal numbers of illiterate and of cultivated and honest women, the entire number of women being of pure Russian origin and all chances of inaccuracy, such as would arise from the consideration of women who were accidentally criminal, being eliminated. The author believes, with Lombroso, Morel, and others, that the criminal is a degenerate, pathological being, in whom are accumulated the morbid elements of his ancestors, whose diseases (such as phthisis, syphilis, and alcoholism) give rise to weakened vitality and the anatomical and psychical deviations from the normal type in their offspring. Hence, to diminish crime it is not sufficient to punish the criminal, but the social conditions from which he springs should also be ameliorated, so that not only should the child be removed from the influence of the pernicious example of vicious and debauched parents, and receive such education as may best enlarge its capacities to cope with existence and to live by honest remunerative labor, but the aims of a higher philanthropy will be to check the propagation and transmission of disease, so that healthy parents may give rise to healthy children.

Reports on the Progress of Medicine.

ANATOMY.

By MATTHIAS L. FOSTER, M. D.

A Form of Overgrowth of the Skull following the Distribution of the Fifth Nerve.—Mr. Thomson exhibited at the meeting of the Medico-chirurgical Society (*Edin. Med. Jour.*, January, 1891) a skull in which the bones of the left side were much hypertrophied, some to a greater extent than others. The left half of the cranium was more convex, prominent, or bulging than the right; the vertical height of the superior maxilla was sixty millimetres on the left side, forty on the right; the vertical height of the body of the inferior maxilla was thirty-one millimetres on the left side and only eighteen on the right, and the vertical height of the left external pterygoid plate of the sphenoid was forty-two millimetres, while the right plate measured only twenty-nine. There was also a nodular and bossy thickening of the surfaces of the affected bones, especially over the zygoma and the malar bone, identical in structure with the nodes met with on the surface of the long bones in syphilis. This condition of hyperostosis was still greater on the alveolar border of the left superior maxilla. The condyle of the inferior maxilla was enormously enlarged. There were several exostoses, the largest projecting into the cranial cavity from the inner table of the frontal bone. Although this tumor surrounded the frontal sinus, the cavity of the latter was considerably dilated. On the inner surface of the left parietal were several exostoses, which varied in size from that of a pea to that of a cherry. There was also a conical exostosis from the left anterior clinoid process, which projected directly backward so as to overhang the junction of the petrous portion of the temporal with the occipital bone.

Associated with these various forms of overgowth affecting the bones on the left side of the skull there was found a very pronounced enlargement of the grooves, canals, and foramina for the nerves and blood-vessels on the same side, more especially of those which serve for the transmission of the different branches of the fifth nerve—viz., the foramina rotundum and ovale at the base of the skull, the supra-orbital, infra-orbital, malar, inferior dental, and mental foramina in the bones of the face.

These bony alterations followed with great accuracy the area of distribution of the fifth nerve. The characteristic overgrowth and tumor formation affected every single bone in the anterior two thirds of the skull on the left side, on their periosteal, pericranial, and dural aspects, but these changes were not present behind the mastoid. This association of bony overgrowth in the area of distribution of a nerve, with an enlargement of its various branches, naturally suggests altered nerve influence as the cause of the overgrowth, and it would seem justifiable to class the morbid condition which the specimen presented with other so-called tropho-neuroses.

The left hemisphere of the brain was very much smaller than the right; the convolutions on the anterior and superior aspect of the frontal lobe were displaced, atrophied, and flattened by the large bony tumor already described. The rest of the brain and membranes appeared healthy, except for a disc-like plate of bone five centimetres in diameter, which lay in the substance of the falx cerebri.

A Large Brain.—Wilson (*Edin. Med. Jour.*, January, 1891) reports the removal of a brain which weighed sixty-four ounces, in the post-mortem room of the Royal Edinburgh Asylum, from a man seventy-five years of age, five feet ten inches in height. The circumference of the head was twenty-four inches. The brain was very anæmic, contained hardly any fluid, and was put on the scales immediately after removal. It was described as "large vertically, well shaped all over, with convolutions if anything larger than normal, and sulci wide over the vertex, except the occipital."

The man's intelligence seemed to have been above the level required for his work as a sawyer, but was never of a high grade.

The Caruncula Lacrimalis.—Stieda finds no sudoriparous glands in the vicinity of the lachrymal caruncle as described by either Waldeyer or Sattler (*Arch. f. microscop. Anat.*, Bd. 36, 1890). Near the hair and sebaceous follicles he finds formations of the appearance of Krause's acinous conjunctival glands, two or three glands with a common excretory duct. Each acinus was composed of layers of single polygonal cells with finely granular protoplasm and a central nucleus. Hence the author thinks they are not mucous glands, but belong to the serous or the albumin-secreting variety. The epithelium of the caruncle is stratified, in which, in many eyes, goblet cells appear, which are to be considered, not as normal elements of the mucous membrane, as in the mucous membrane of the intestine, but rather as pathological formations—cells undergoing hyaline metamorphosis.

The Neuroglia-stroma of the Central Nervous System.—Weigert presents the following observations (*Fortschritte der Med.*, December, 1890). The staining methods hitherto employed colored alike the nerve fibers, the offshoots of the ganglion cells, the axis cylinders, and the fibers of the neuroglia, but the author has succeeded in isolating the latter so that they appear dark-blue, while the two former remain uncolored, or receive a bright-blue staining. Regarding the relation of these fibers to Deiters's cells, they are not direct offshoots from the cell protoplasm. By this method the observation of Ranvier is confirmed that the fibers of the neuroglia lie, often arched, upon the bodies of the cells, and that the fiber material is not identical with the cell protoplasm, but differs micro-chemically. But when the body of the cell is very small and the nucleus is stained, as frequently happens, then it appears as though they might be protoplasmic offshoots. By this method connective-tissue corpuscles are not stained, and the appearance of the cells of the neuroglia as well as of the fibers is so characteristic that they can not be confounded.

The entire superficies of the central nervous system is covered with a network of these fibers. In the spinal cord septa pass inward from this, which envelop the vessels entering from the pia. In the white substance the fibers of the neuroglia run partly parallel to the nerve fibers, partly at right angles, and partly obliquely to them. In the gray substance many vertical neuroglia fibers are to be found, most sparingly in Lissauer's zone of the posterior horns, more abundantly in the anterior horns, and most richly in the neighborhood of the central canal.

In the medulla oblongata these fibers are the most numerous in the olive and in the neighborhood of the ventricle. Their arrangement in the white substance is the same as in the cord. For each group of ganglion cells is a typical plexus.

The cerebellum contains many neuroglia cells and fibers in the white substance, very few in the granular layers, more in the molecular. A proportionately small number extend inward from the surface perpendicularly through the latter layer and give off oblique fibers in the zone of Purkinje's cells, which are surrounded by a network of neuroglia fibers.

The cerebrum contains in the white matter a thick network of these fibers. The deeper layers of the gray matter which are rich in nerve cells are poor in neuroglia. The opticus resembles the white matter regarding the fibers. The author does not reveal his method of staining.

The Decussation of Fibers at the Optic Chiasma.—Delbrueck relates the following (*Arch. f. Psychiatrie u. Nervenkrankh.; Brain*, Part III, 1890):

At an autopsy the left optic nerve was found completely degenerated; the right partly. Both nerves, as well as the chiasma and optic tracts, were cut in series, and stained by Weigert's method. The right uncrossed fibers alone were found normal. The uncrossed fibers were united in a bundle and running along the side of the nerve. In the chiasma and in the tract they were found to be mixed with the fibers which cross, although they were not scattered uniformly over the transverse section of the tract, but left free—at first the inner and lower quadrant, and later a gradually lessening marginal zone.

Multiple Spleen.—In the Proceedings of the Caucasian Medical Society (*Med. Chron.*, December, 1890) Dr. Solükha records a very rare instance of sextuple spleen, or rather of a quadruple one with two *lienes succenturiati*, in a soldier who died from chronic Bright's disease. The spleen No. 1 measured nine centimetres in length and sixteen in circumference; Nos. 2 and 3 were of an equal size, each measuring six centimetres in length and eleven in circumference. All the three were of an oval shape, had normal appearance and consistence, and each was furnished with a smooth, shining, and dense capsule. The No. 1 had on each side a small supernumerary spleen of a globular form, one being a centimetre and a half in diameter, the other three quarters of a centimetre. The remaining spleen, No. 4, was similarly globular, but somewhat larger than the larger supernumerary of No. 1. Nos. 1 and 2, with the appendices of the former, lay between the diaphragm and the right lobe of the liver, and left a distinct impression on the latter. The upper surface of No. 1 was adherent to the diaphragm, while that of No. 2 was connected with the latter by means of a ligament. No. 3 was adherent with its inner surface in the usual manner to the fundus of the stomach, while its lateral surfaces were inclosed between two layers of the gastro-splenic ligament, which, after forming the capsule, ran upward to become attached to a lumbar area of the muscular portion of the diaphragm. No. 4 was imbedded between the layers of the gastro-splenic ligament, in the vicinity of No. 3. As to the vascular arrangements, the origin of the veins remained undetermined, while the arterial vessels were apparently supplied by the splenic artery. Each of the primary four organs were furnished with its own or independent vessels, which entered into and emerged from the spleen at from two to four distinct points, and with separate branches, which established an intercommunication between it and the remaining spleens. The sheath for all the vessels was formed by a prolongation of the gastro-splenic ligament. It is of interest to note that there was also in this case a transposition of the abdominal viscera.

Referring to Dr. Solükha's paper, Dr. Emelianoff stated that he had come across a case of supernumerary spleens, four in number, in a soldier who had died from relapsing fever. All the four organs had a common root and a perfectly normal structure.

The Development of the Tonsil.—Stöhr (*Correspondenzbl. f. schweiz. Aerzte*) opposes the view of Retterer that the follicles of the tonsil are formed by epithelial depressions. He considers it more probable that they originate from aggregations of leucocytes about the blood-vessels. In regard to the physiological migration of leucocytes through the epithelium, the author conjectures that they are engaged in the removal of the products of retrogressive metamorphosis, and are destroyed in this activity. At least masses of leucocytes are found in many organs undergoing retrogressive metamorphosis—for example, in the thymus. But it is conceivable that the process of migration may be susceptible to another explanation, that the process which originally served only for removal underwent a change of function, and finally serves other than the original purpose, and is consequently maintained.

A Diverticulum of the Male Urethra.—Dittel reports an instance of this rare anomaly (*Wien. klin. Wochenschrift; Am. Jour. of the Med. Sci.*, December, 1890) which was not discovered until the patient had passed middle life. At that time the formation of a stricture was followed by the development of a fluctuating tumor on the under surface of the penis, pressure upon which caused the escape of foul, purulent urine from the meatus. On opening the tumor, it was found to be a sac lined with mucous membrane, communicating with the urethra by a comparatively small opening. Microscopic examination showed that the cavity was not a retention cyst, and precluded the possibility of its being an exaggeration of the dilatation commonly observed behind strictures. Nearly all of the cases observed of this anomaly have been found in young subjects, and the abnormity probably depends on the fact that, in their fœtal development, the peripheral and central parts of the urethra have not united before urine is forced into the central part.

The Thyreo-glossal Duct.—Kanthack (*Jour. of Anat. and Physiol.*, January, 1891), after an investigation of considerable extent, is unable to find any anatomical or histological evidence of a thyreo-glossal duct, or of any intrinsic connection between the tongue and the thyreoid gland during their development. His conclusions are that the gland is developed from an outgrowth of the pharynx in the neighborhood of the second branchial arch. Soon after this, two nodules appear in the middle line in the same region. These two nodules, which eventually become the base of the tongue, soon blend, and then form a kind of lid to the thyreoid outgrowth. Finally these fused nodules join with the tuberculum impar, and at the point of junction the foramen cæcum is found. The latter is therefore more ventrally situated than the thyreoid outgrowth, and can be said to have any connection with the thyreoid duct only in so far as that both are derived from the pharyngeal wall. The nucleus for the hyoid bone then appears and forms a sort of partition between the two. Hence the author is of the opinion that the foramen cæcum does not mark the opening of an obliterated thyreo-glossal duct, a view held by several German authorities.

The Origin of the Liver.—Shore (*ibid.*) deduces from his researches that the proper liver tissue is first evolved as an embryonic organ of nutrition, and for the purpose of producing some change in the yolk substance to fit it for use as an immediate formative material in the metabolism and growth of embryonic cells and tissues. The liver, at the time of its primary origin, and also throughout development, is intimately connected with the yolk, or the yolk sack, has a very intimate association with the blood-vessels which carry blood from the yolk sack, and it begins to be developed at a time when the absorption of the yolk and its utilization for the supply of food to the growing embryonic cells is beginning to be very active. Primitively, the liver is a simple saccular outgrowth from the alimentary canal, at the bottom of which a solid mass of cells is formed, which becomes broken up by the production in it of blood capillaries connected with the veins of the yolk sack. The minute "biliary" canals of the liver substance are formed subsequently by the hepatic cells arranging themselves around central lumina. These are formed separately, and subsequently open into the common duct, which is formed of the walls of the original outgrowth.

A Symelian Monster.—Symelian monsters are very rare, and all who are interested in teratology will find pleasure in reading Mr. Benington's excellent description of the anatomy of one which he had the fortune to dissect (*ibid.*). A point of special interest in this case is that opposite the last lumbar vertebra in the median line of the back was a pig-like caudal appendage composed almost entirely of muscular tissue and containing neither cartilage nor bone. After considerable search, no record was found of any other tailed symelian monster.

The Auditory Center.—The following case, related by Dr. Ferguson (*ibid.*), is of much interest on account of its evidence regarding the exact position of the auditory center, about which there has been much dispute.

The patient, a young man, was of a very strumous constitution and had a tubercular family history. For eight years he had suffered from a chronic otitis media in the right ear in which hearing by aerial conduction was finally wholly lost, but "was slightly retained to vibrations conducted through the solid media of the bones." For two years previous to his death there were symptoms of a cerebral tumor situated in the right temporo-sphenoidal region. There were convulsive movements with auditory auræ, both referred to the left side. Hearing in the left ear became gradually abolished, and for six months at least was entirely gone, though the auditory auræ were still present. At the autopsy a large tumor was found in the first and second temporo-sphenoidal convolutions on the right side. The second convolution was slightly involved, but the first was entirely destroyed. It would appear from this that the left ear was rendered deaf by disease of the first temporo-sphenoidal convolution on the right side.

[Dr. Ferguson appears to be surprised that hearing was not restored by compensation, as the left hemisphere appeared normal, though he guards himself by saying that minute changes might have taken place in the auditory center on the left side. But, if we rightly understand him, he furnishes evidence that pathological changes had taken place in the nervous mechanism of the ear in his statement that the hearing in the right ear "was *slightly* retained to vibrations conducted through the solid media of the bones." In disease of the middle ear bone conduction is increased above the normal; in disease of the nervous mechanism it is decreased. If, then, the bone conduction in the right ear was slight, it proves disease of the nervous apparatus, perhaps secondary to the middle-ear trouble. It is unfortunate that the right auditory nerve was not examined for traces of degeneration.]

New Inventions, etc.

VERTICAL NASAL BONE SAWING.

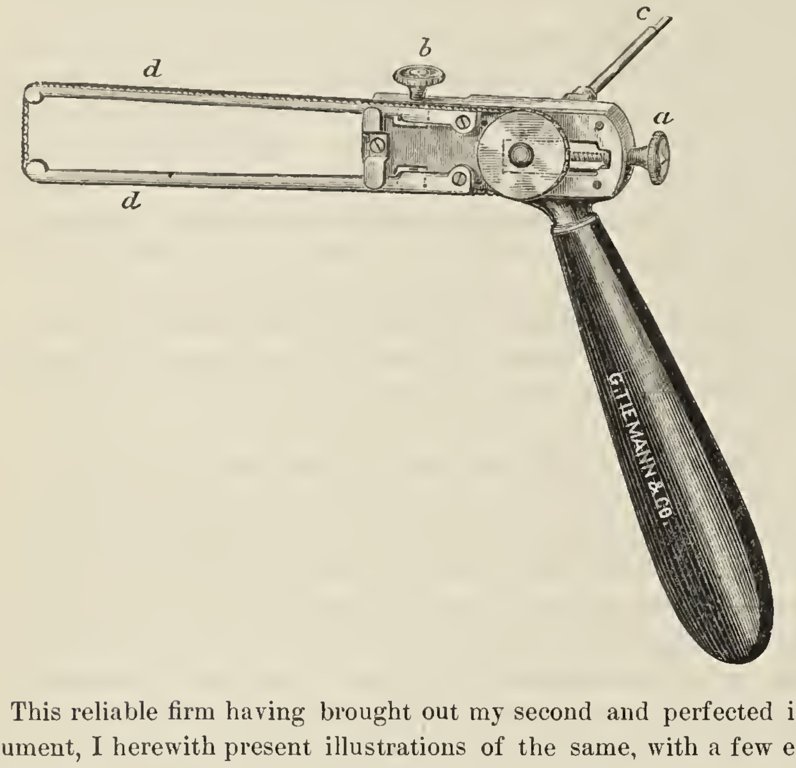
By Andrew T. Veeder, M. D.,
SCHENECTADY, N. Y.

For some time there has been in my possession Rowe's rotating saw, which is driven forward and backward by electro-motor force.

While I was examining it and at the same time recalling the band saws which cut so quickly and so smoothly through wood, the thought occurred to me, why can not the modes of action in these two saws be combined and employed in the construction of an instrument which could be worked within the nose by either introduction or withdrawal? Accordingly a sketch was made of a saw which it seemed to me might answer the proposed purpose, if it should be found possible to make it both delicate and strong.

My sketch was sent to Messrs. Tiemann & Co. with several suggestions relative to the manner of making the frame and to the different forms of saw which might be made to run easily and yet be strong and small. Their answer was, "We think we can make just what you want."

Upon this assurance they were ordered to commence work and to complete the instrument as soon as possible, sparing no expense so long as there remained a fair prospect of success.



This reliable firm having brought out my second and perfected instrument, I herewith present illustrations of the same, with a few explanatory words: *d*, *d*, arms, which, by the turning of the thumb-screw, *b*, can be placed at different distances from each other; *a*, the screw, by turning in opposite directions, slides all the motive mechanism backward and forward, thus shortening or lengthening the endless chain saw. This saw has small sharp teeth on the inside of each link, which teeth drop into wheels of Babbitt metal having little depressions to keep them from being injured; *c*, cable attachment for electro-motor.

I am now having a third saw made on the same principle, with a little stronger chain, the same frame-work and motion, with teeth on the reverse edge, to sever bony obstructions by pushing the instrument from the anterior to the posterior part of the nose.

Miscellany.

The Warren Triennial Prize.—Dr. J. W. Pratt, the resident physician of the Massachusetts General Hospital, has issued the following circular:

The Warren Triennial Prize was founded by the late Dr. J. Mason Warren in memory of his father, and his will provides that the accumulated interest of the fund shall be awarded every three years to the best dissertation, considered worthy of a premium, on some subject in physiology, surgery, or pathological anatomy, the arbitrators being the physicians and surgeons of the Massachusetts General Hospital. The subject for competition for the year 1892 is On Some Special Subject in Physiology, Surgery, or Pathology. Dissertations must be legibly written, and must be suitably bound so as to be easily handled. The name of the writer must be inclosed in a sealed envelope, on which must be written a motto corresponding with one on the accompanying dissertation. Any clew given by the dissertation, or any action on the part of the writer, which reveals his name before the award of the prize will disqualify him from receiving the same. The amount of the prize for the year 1892 will be $500. In case no dissertation is considered sufficiently meritorious, no award will be made. A high value will be placed on original work.

The New York Academy of Medicine.—At the next meeting of the Section in Laryngology and Rhinology, on Tuesday evening, the 24th inst., Dr. H. Holbrook Curtis will report Four Cases of Laryngeal Neoplasm, and Dr. D. H. Goodwillie will read a paper on Fibroid Growths of the Naso-pharynx and the Method of their Removal by Electrocautery.

At the next meeting of the Section in Obstetrics and Gynæcology, on Thursday evening, the 26th inst., Dr. P. McCahey, of Philadelphia, will demonstrate on the manikin the use of his atmospheric tractor (a substitute for the obstetrical forceps), and Dr. H. N. Vineberg and Dr. H. J. Boldt will present the subject of The Treatment of Retro-displacements of the Uterus with Adhesion by Brandt's Method.

A Mercurial Caoutchouc Plaster.—Schneegans and Corneille (*Jour. de pharm. d'Alsace-Lorraine*, Feb., Mar., 1890) give the following formula:

Dammar resin	20 parts;
Benzoinated suet	34 "
Lanolin	20 "
Caoutchouc	6 "
Metallic mercury	20 "

The mercury is rubbed with the lanolin until no more globules are visible; the resin and suet are melted together and strained through muslin, then the caoutchouc, dissolved in benzene, is added, and the latter is evaporated on the water-bath. To the still lukewarm mixture the mercurial lanolin is added and well mixed. The spreading is deferred until the mass no longer shows air-bubbles and flows evenly.

To Contributors and Correspondents.—*The attention of all who purpose favoring us with communications is respectfully called to the following:*

Authors of articles intended for publication under the head of "original contributions" are respectfully informed that, in accepting such articles, we always do so with the understanding that the following conditions are to be observed: (1) when a manuscript is sent to this journal, a similar manuscript or any abstract thereof must not be or have been sent to any other periodical, unless we are specially notified of the fact at the time the article is sent to us; (2) accepted articles are subject to the customary rules of editorial revision, and will be published as promptly as our other engagements will admit of—we can not engage to publish an article in any specified issue; (3) any conditions which an author wishes complied with must be distinctly stated in a communication accompanying the manuscript, and no new conditions can be considered after the manuscript has been put into the type-setters' hands. We are often constrained to decline articles which, although they may be creditable to their authors, are not suitable for publication in this journal, either because they are too long, or are loaded with tabular matter or prolix histories of cases, or deal with subjects of little interest to the medical profession at large. We can not enter into any correspondence concerning our reasons for declining an article.

All letters, whether intended for publication or not, must contain the writer's name and address, not necessarily for publication. No attention will be paid to anonymous communications. Hereafter, correspondents asking for information that we are capable of giving, and that can properly be given in this journal, will be answered by number, a private communication being previously sent to each correspondent informing him under what number the answer to his note is to be looked for. All communications not intended for publication under the author's name are treated as strictly confidential. We can not give advice to laymen as to particular cases or recommend individual practitioners.

Secretaries of medical societies will confer a favor by keeping us informed of the dates of their societies' regular meetings. Brief notifications of matters that are expected to come up at particular meetings will be inserted when they are received in time.

Newspapers and other publications containing matter which the person sending them desires to bring to our notice should be marked. Members of the profession who send us information of matters of interest to our readers will be considered as doing them and us a favor, and, if the space at our command admits of it, we shall take pleasure in inserting the substance of such communications.

All communications intended for the editor should be addressed to him in care of the publishers.

All communications relating to the business of the journal should be addressed to the publishers.

THE NEW YORK MEDICAL JOURNAL, FEBRUARY 28, 1891.

Lectures and Addresses.

EXAMINATION OF THE URINE FOR LIFE INSURANCE.

A LECTURE DELIVERED AT THE OPENING OF THE NEW BUILDING OF THE CHICAGO POST-GRADUATE MEDICAL SCHOOL,
Wednesday Evening, January 7, 1891.

BY CHARLES W. PURDY, M. D.,
PROFESSOR OF URINARY AND RENAL DISEASES AT THE CHICAGO POST-GRADUATE MEDICAL SCHOOL.

THE examination of the urine of applicants for life insurance has for its object the determination of the presence or absence of diseases of the urinary organs which abridge the normal expectancy of life. While it is absolutely impossible to accurately determine many of these questions without a careful analysis of the urine, in many cases it is equally impossible to determine them by uranalysis alone without taking into consideration the concomitant conditions and states of the system. By examination of the urine, therefore, the widest possible scope of the term is intended in order that all conditions which bear directly upon urinary diagnosis may be included.

In a case of suspected pulmonary tuberculosis the medical examiner for a life-insurance company would by no means confine his investigation of the question to a physical examination of the applicant's chest. He would also carefully note the applicant's weight, the frequency of his pulse, and especially his temperature; nor would he fail to interrogate the applicant as to the presence of any cough, expectoration, or hæmoptysis; and, finally, in order to doubly assure himself, he would go carefully over the family history.

Auscultation and percussion would sometimes leave the most expert medical examiner in doubt as to the actual condition of the organs within the chest if he did not carefully note the symptoms above mentioned.

About sixty years ago Richard Bright, of London, announced to the medical world that albuminuria was the index of certain diseases of the kidneys which were invariably and speedily followed by death. A scientific diagnosis so incomparably simple in its construction, and apparently so unanswerable as an ultimatum, could not fail to exercise a strong fascination over the medical mind of the day, and accordingly the test tube constituted at once the ordeal from which there was no appeal in cases of suspected renal disease. A few years later, however, it was conclusively shown that occasionally certain forms of renal disease caused death without any accompanying albuminuria whatever. Indeed, this fact did not escape the keen observation of Bright himself in his later researches. And now, within the past few years, we are assured by numerous and most trustworthy authorities that albuminuria is not at all uncommon in otherwise perfectly healthy people, and that in special cases it in no wise abridges the life, or even the health, of the individual.

It would, therefore, seem perfectly clear with regard to albuminuria that the time has arrived when we must go back of this mere fact and take into consideration its accompanying symptoms and phenomena before we are able to arrive at accurate conclusions as to the presence of disease of the kidneys in any given case. Indeed, as in the case of the lungs, so with the kidneys, when the local symptoms leave the question of the presence of disease in the least doubt, then the whole organism must be closely scanned for those general landmarks which are likely to guide us to correct conclusions in the matter. In the following directions for conducting examinations of the urine for life insurance, therefore, the most important facts and data bearing upon the question of urinary diseases, aside from the urine itself, will be considered in their appropriate places.

The Urine.—The most important preliminary in examination of the urine, and one that a due regard for the interests of the company should always demand, is to have the specimen of urine to be submitted to examination voided in the presence of the medical examiner. This important preliminary is easily enough accomplished if the applicant be notified not to void his urine for from two to three hours before presenting himself for examination. The medical examiner should, of course, provide in his office the proper facilities for collecting the specimen of urine to be examined. If, for any special reasons, it is impossible to carry out these requirements, the medical examiner should satisfy himself that the urine he is about to examine has been voided by the applicant.

The next preliminary in dealing with the case relates to the time of day the urine is voided. In all cases where practicable it should be so arranged that the sample of urine to be examined be voided about three hours after a meal of mixed food. It is high time to stamp out the popular fallacy that the urine voided on rising in the morning is the most desirable for purposes of uranalysis. Of all urines, that voided in the morning before breakfast is the least likely to contain either albumin or sugar. The urine voided from three to four hours after a meal gives us the effects of both food and exercise upon the secretion.

Finally, only freshly voided urine, or urine perfectly preserved from change, should be submitted to chemical or microscopical examination. In all cases it is preferable to examine the urine not later than from six to ten hours after it has been voided. If for any reason this is impossible, then the freshly voided urine should be treated with resorcin * in the proportion of five grains to every two ounces of the urine, when it may be set aside without fear of change for several days.

Physical Examination.—The normal color of urine is pale yellow, but there may be considerable variation within the range of health. Pathologically, it may vary from the color of water through the various shades of yellow and red, deepening into black.

Should the urine lose two or three shades of its normal yellow and appear decidedly greenish in hue, it would suggest the possible presence of sugar, as these are the usual conditions when sugar is present in any considerable quantity.

---

* In examining the urine for sugar with copper tests, resorcin causes slight change, but the reaction is unlike that due to sugar and is easily recognized.

Blood and bile pigments impart their own peculiar tinges to the urine, the depth of the color coarsely indicating the relative quantity present.

Normal urine when freshly voided is usually transparent, but urine containing sugar or albumin may also remain perfectly clear.

On the other hand, urine may be opaque when voided, owing to the presence of the earthy phosphates of calcium and magnesium, and in such case the addition of a few drops of acid restores the normal transparency.

Again, urine is sometimes turbid, owing to the so-called mixed urates of sodium, potassium, calcium, and magnesium, and in such case the normal transparency is restored by the application of gentle heat.

Pathologically, the urine may be turbid from the presence of pus or other organic products, and in such case neither heat nor acidification restores the transparency, and this suggests very strongly the presence of disease of the bladder or some portion of the urinary tract. But if I were asked to choose a single symptom which would most uniformly indicate organic disease of the kidneys, I should name an habitual departure from the normal range of specific gravity of the urine, more especially a reduction thereof.

If the tubular structure of the kidney is impaired by disease, the organ is unable to secrete the normal amount of solids with the urine, and the degree of impairment is pretty uniformly indicated by the degree of daily reduction of the specific gravity of the urine as a whole.

The normal specific gravity of the urine is generally considered to range between 1·015 and 1·025. I am, however, inclined to regard the normal range within more narrow limits, especially as regards reduction, and therefore by habit have become suspicious of organic disease when the specific gravity habitually sinks below 1·018. As a matter of fact, which I can attest from many thousands of observations, normal urine usually fluctuates between 1·018 and 1·023 in specific gravity, being more likely, however, to rise above than to sink below the above-named range.

For the purpose of accurately determining the specific gravity of urine, the ordinary urinometer sold in the shops is not to be depended upon. It is probably strictly within the bounds of truth to assert that not more than one in thirty of these instruments is accurate, and their errors mark all variations up to fifteen or more degrees. The urinometers made by E. R. Squibb are a noteworthy exception to this. Each urinometer sent out by this manufacturer is carefully tested, and any variation from the correct standard is marked on the case. The Squibb urinometers are graduated to read at a temperature of 77° F. instead of 60° F., as are the more common instruments. This corresponds more nearly with the temperature of the rooms in which most urines are examined. In taking the specific gravity of the urine, it is advisable always to use a Squibb's urinometer. The temperature of the urine should first be taken with the thermometer which is provided with each Squibb's urinometer, and for every 7° F. of temperature above 77° F., one degree must be added to the specific gravity as marked by the urinometer. When the urine is examined immediately after having been voided, its temperature will range from 88° to 95° F., in which case two degrees must be added to the specific gravity recorded by the urinometer. If, on the other hand, the urine has long been voided, in rooms of ordinary temperature, it will not vary more than two or three degrees from 77° F., in which case no temperature corrections will be necessary.

If the specific gravity of the urine be found below 1·018, and especially should it descend to 1·016 or under, the whole twenty-four hours' urine should be collected and a sample of the whole product should be tested. If it is found that such a sample shows a specific gravity below the normal range, other evidences of renal disease (to be considered later) must be carefully searched for, but more especially albumin. On the other hand, if it is found that the specific gravity of the urine rises above the normal range, search should immediately be made for sugar.

Chemical Examination.—The chemical reaction of normal urine—*i. e.*, of the whole twenty-four hours' product—is nearly always acid. The degree of acidity varies very much at different times of the day, and especially with regard to food. Shortly after a meal its acidity begins to diminish, and in from three to four hours the alkaline tide usually reaches its height; occasionally, though rarely, the acidity may become so diminished at such times that the urine gives an alkaline reaction with test paper.

The urine may become alkaline either from fixed alkali (potash or soda) or from volatile alkali (ammonia). It is important to distinguish between these two, as in the first case it merely reflects a condition of the blood, while in the second case it is nearly always the result of chronic inflammatory conditions of the lower urinary tract, notably the bladder. If red or violet litmus turns blue in contact with urine just voided, and *remains blue* upon drying, the reaction is due to fixed alkali. If, on the other hand, the paper *returns* to the original red or violet upon drying, the reaction is due to volatile alkali—ammonia.

Of the morbid chemical products found in the urine, those that most deeply concern medical officers of life-insurance associations are *albumin* and *sugar;* therefore, for present purposes, what is about to be said upon the chemistry of the urine will be chiefly confined to these two substances.

Albumin.—Perhaps the most popular method of searching for albumin in the urine at present is by means of Heller's nitric-acid test. The process is exceedingly simple, as follows: Clear, chemically pure nitric acid is poured into an ordinary test-tube to the depth of an inch. Upon this column of acid the urine is gently floated to the depth of an inch, care being taken to avoid mixing the acid and the urine. To avoid the latter, the urine may be delivered from a pipette, the test-tube being held obliquely, which checks the force of the stream, and the urine, being the lighter of the two fluids, floats upon the surface of the acid. When the stratum of urine and that of the acid come in contact, if albumin is present in the urine a white zone immediately appears at the junction of the two fluids.

This test is one of considerable delicacy, and it possesses the advantage of great readiness and convenience in its application. It has, however, at least two sources of error which should be borne in mind. It may cause a whitish zone of precipitated urates, or a yellowish-white cloud with certain oleoresins sometimes present in the urine, notably with copaiba. The zone of precipitated urates is situated *above* rather than *at* the line of junction of the acid and urine, the cloud is less sharply defined than that due to albumin, and, lastly, the precipitated urates are dissolved upon the application of gentle heat. The cloud due to oleoresins disappears upon the addition of alcohol.

A more trustworthy test for albumin in the urine, when properly employed, is the ferrocyanic. The best method of applying this test is as follows: Have on hand two solutions—first, a saturated aqueous solution of citric acid; second, a saturated aqueous solution of ferrocyanide of potassium. Pour into an ordinary test-tube the urine to be tested to the depth of about three inches, and add sufficient of the citric-acid solution to thoroughly acidify the whole. Wait for a few minutes for the development of any cloud which might appear from the presence of mucin. If the test remains clear, add half a drachm or so of the ferrocyanide solution, and, if albumin is present, the urine quickly assumes a milky turbidity, more or less pronounced in proportion to the quantity of albumin present.

Should the mucin reaction occur upon the addition of the citric acid, filter carefully through doubled Swedish filter-paper, and add the ferrocyanic solution as before.

The ferrocyanic test is unchanged by peptones, vegetable alkaloids—as quinine, strychnine, etc.—or by oleoresins in the urine; and, moreover, as above applied, it is not subject to error from the presence of mucin—the most difficult of all errors to avoid in testing for albumin in the urine. Finally, the ferrocyanic test responds to all modifications of albumin, and it ranges in point of sensitiveness as equal to the nitric-acid test in whatever form the latter may be employed.

Having determined the presence of albumin in the urine by one or both of the above-mentioned tests, it will be useful to know the quantity thereof. This is most readily ascertained by Esbach's method, which is as follows: First prepare a standard test solution according to the following formula:

℞ Picric acid................	10	grms.;
Citric acid.................	20	"

Distilled water to one litre. M.

Fill the albuminometer tube with the urine up to the letter U, then add the test solution to R. Close the tube with the stopper and invert several times until the urine and test solution are thoroughly mixed. Stand the tube in a rack for twenty-four hours, and then read off the number of grammes of albumin to the litre, as will be indicated by the numbers on the side of the tube, which range from 1 to 7. If it is desired to know the percentage of albumin present in the urine instead of the number of grammes to the litre, remove the decimal point one place to the left—thus, 5 grammes to the litre would be 0·5 per cent. of albumin. It will be observed that Esbach's albuminometer tubes are so graduated that their highest gauge is 7 grammes per litre—0·7 per cent. of albumin. If, therefore, the urine is very highly albuminous, it should be diluted with one or two volumes of water before testing. The product may thus be multiplied by two or three, according as the volume is doubled or trebled.

Significance of Albuminuria.—The belief has been rapidly gaining ground of late among our ablest authorities that certain forms of albuminuria should not necessarily debar such subjects from the privileges of life insurance. While the medical directors of life-insurance associations, as a rule, do not accept subjects of albuminuria—and I think wisely so, as yet—still, it is all-important to distinguish between the so-called functional forms of albuminuria and those clearly due to dangerous renal lesions. In order to clearly establish such questions, a number of important matters must be carefully considered.

Quantity.—If the quantity of albumin present in a given specimen of urine is large—say four or five grammes to the litre or over—the application should be unconditionally declined, for such condition points without doubt to grave organic disease of the kidneys. On the other hand, it must be most distinctly understood that *small quantities of albumin in the urine* constitute no evidence whatever that the kidneys are not seriously damaged. There is no doubt that a neglect to strictly observe this axiom has resulted in foisting upon life-insurance companies hundreds of subjects affected with hopeless and incurable diseases of the kidneys, and thus incurring heavy pecuniary losses. The medical examiner will therefore bear in mind that the most hopeless of all forms of Bright's disease—interstitial nephritis—often runs through its whole course with the appearance of but small quantities of albumin in the urine; indeed, under such circumstances, the urine may contain *only occasional traces of albumin.* It is these occasional traces of albumin in the urine that the company depends upon its medical officers to find and report as carefully as the very largest amounts. A false and highly mischievous notion seems to have prevailed quite widely in certain circles—viz., that the slighter traces of albumin in the urine are of no grave significance—and it is high time that this notion was thoroughly stamped out. In 1886 an applicant for life insurance was referred to me for special examination by the medical officers of a prominent life-insurance association. His urine contained a mere trace of albumin, but other symptoms indicated the presence of grave renal disease, and accordingly I advised the company to decline the application unconditionally. Within six months thereafter he was accepted by another company, and his life was insured for $10,000, which the company was called upon to pay, in consequence of his death, before the second annual premium was due.

Age.—The age of the subject bears very strongly upon the prognosis in all cases of albuminuria. It may be laid down as a pretty safe rule that subjects of albuminuria beyond forty years of age are ineligible for life insurance, and this applies to all grades as to quantity or constancy.

On the other hand, if the subject is under thirty years of age, certain circumstances may render the prognosis of albuminuria less grave. It may be stated that most of the cases of so-called functional albuminuria occur in young subjects under thirty. The circumstances usually accompanying such cases are: Albuminuria, often intermittent and always moderate in grade, ¼ to 2 grammes to the litre; specific gravity of the urine, up to and often above normal; absence of renal casts from the urine; normal condition of the heart and arteries; and the subject otherwise in reasonably good health. The acceptance or rejection of such subjects should, of course, rest with the home office after receiving a careful presentation of all the facts.

Habits, Constitution, etc.—The life habits of the applicant bear importantly upon the prognosis of albuminuria. If the applicant has always been a large eater, and his appetite has inclined largely to meats, the albuminuria is most likely to be due to interstitial nephritis. No fact is more widely understood now than that chronic Bright's disease is most frequently the result of excessive meat eating. In the great majority of cases the disease arises after middle age from long overtaxation of the kidneys in eliminating the excessive nitrogenous waste occasioned by overingestion of lean meat.

On the other hand, albuminuria in the opposite type of subjects—the spare eater, the dyspeptic, the constitutionally weak or defective—is frequently the result of amyloid lesions of the kidneys. Further evidences may usually be found if sought for in the family history—such as of tuberculosis, syphilis, or struma.

Circulatory Conditions.—Certain conditions of the circulation may be said to be so far characteristic of chronic Bright's disease that they are *always* present when chronic interstitial nephritis is present. These may be broadly stated to be increase of the circulatory forces, which is indicated by increased tension of the pulse; accentuation of the second cardiac sound; and, ultimately, cardiac enlargement, notably of the left ventricle.

It is perfectly true that we may have increased tension of the pulse from other causes—such as atheroma of the arteries; we may even have cardiac enlargement, with its accompanying symptoms, in the absence of chronic Bright's disease. This, however, in no wise impairs the value of the circulatory changes as negative symptoms, for, if these are absent, we are able to say that chronic Bright's disease is absent. The features of the circulation associated with chronic Bright's disease are: 1. Increased tension of the pulse, best shown by the sphygmograph, but easily detected by the finger. The pulse is full, hard, and pronouncedly incompressible. 2. The second sound of the heart is sharply accented and sometimes duplicated, as heard best in the second right costal interspace, near the sternum. 3. The area of cardiac dullness may be found abnormally extended below and to the left, indicating enlargement of the left ventricle, which is pretty sure to appear sooner or later. The last-named condition may not appear until the late stages of the disease, but the two former symptoms are always present in chronic interstitial nephritis (granular, contracting kidney), no matter how recently the disease has been established.

Nocturnal Urination.—One of the most constant and valuable indications of certain forms of renal disease is the habit of rising regularly at night to void the urine. Of course, bladder irritation due to cystitis, or retention due to an enlarged prostate gland, must be carefully excluded. Indeed, I regard the habit of rising regularly at night to void urine—say, once, twice, or oftener—in men over middle age who are free from cystitis or enlarged prostate, as one of the very strongest indications of the presence of chronic Bright's disease. This symptom is but another evidence of increase of the circulatory forces. It means that the blood-pressure within the filtering mechanism of the kidney is being increased by the increasing power of the cardiac ventricle, and therefore more urine is being secreted than normal. These subjects rise at night to void urine, *not* because the bladder is irritable, but because the bladder is distended, and hence they void large quantities of urine each time they rise.

In concluding this part of the subject, it may be asked, If these accompanying conditions and symptoms are of the value attributed to them, should not their careful study enable the examiner to form a pretty accurate conclusion, in some cases at least, as to the presence of Bright's disease independent of the presence or absence of albuminuria? This question may be unhesitatingly answered in the affirmative. Thus, in the case of a man over forty years of age who has been a generous eater all his life, eating meat at most of his meals; if such a man rises regularly at night to void considerable quantities of urine of low specific gravity, and if his pulse is one of marked tension, and the second cardiac sound is distinctly increased, even though no albumin whatever is present in his urine, such a subject would be ineligible for life insurance, for the reason that he is undoubtedly suffering from chronic Bright's disease. It is well known now that Bright's disease without albuminuria is a frequent fact, and the above-mentioned circumstances are precisely those under which it occurs.

In 1885 * I collected and published the following facts upon this subject: "In *Guy's Hospital Reports* for 1879 (p. 367) may be found an analysis of 100 cases of granular kidneys observed in that hospital up to that time. Of the 100 cases noted, the very large proportion of 74 cases were characterized by the absence of albumin from the urine." Dr. Saundby, on The Occurrence of Dropsy in Granular Kidney, introduces a table showing the diagnosis, sent down from the wards to the post-mortem room at the Birmingham General Hospital,† in 98 cases, in all of which the kidneys proved to be granular. Out of these 98 cases, only 22 were sent down with the diagnosis of Bright's disease. We may therefore fairly assume that in 76 of the cases albumin was not found in the urine. Dr. Mahomed collected the records of 61 cases treated in Guy's Hospital during the two years 1879 and 1880. In 41 of these cases albumin was *never* discovered in the urine.

Now, adding these statistics together, we have 259 cases of chronic Bright's disease in which albumin was present in the urine only in 68 cases, leaving 191 cases—nearly 74 per cent.—in which albumin was absent. These cases can be open to little question, since they were all hospital cases subject to the usual rules of examination of the urine, and the diagnosis in all cases was established by the autopsies. It is this class of cases that has proved so unprofitable to life-insurance companies, and the medical examiner should be ever on the alert for them with the aid of the suggestions above laid down.

---

* *Chicago Med. Journal and Examiner*, May, 1885.

† *Birmingham Medical Review*, April, 1881.

Pain.—Contrary to the popular lay impression, "pain in the back" forms no part of a scientific diagnosis of any form of Bright's disease. The kidneys may dwindle to mere rudiments under granular atrophy, or waste completely away under suppurative disease, without either state ever being made known through pain. In connection with albuminuria, therefore, it is unnecessary to dwell upon this symptom.

Nevertheless, pain bears very strongly upon other urinary disorders which are of special interest to medical examiners for life-insurance associations, notably gravel.

Sudden attacks of severe pain in the back, extending forward along the course of the ureter, with retraction of the testicle on the affected side, are significant of gravel, more especially if the attacks be so severe as to necessitate the use of anodynes for their relief.

Should entire freedom from pain exist between the attacks, we may pretty safely assume that no stone has lodged in the renal pelvis or urinary passages, while, on the other hand, if more or less backache exists between the severer attacks, and especially if the pain extends down the leg, we may pretty safely infer that one or more stones have lodged in the kidney or renal pelvis. The urinary sediment as already shown will afford evidence of the character of the gravel present, and to some extent of the amount of damage it is causing.

If the applicant is subject to frequent attacks of gravel —occurring, say, every six or twelve months, even though no evidence exists that stone has lodged in the kidney or urinary tract—he would not be entitled to the privileges of insurance until at least five years had elapsed after his last attack of gravel. On the other hand, if there are reasons to believe that a stone has lodged in the kidney or renal pelvis, or even in the bladder, the application should be declined.

Sugar.—The presence of sugar in the urine is usually determined by some form of the copper test, most often Fehling's solution. The instability of sodic tartrate, which enters into Fehling's solution, renders the latter notoriously unstable, and consequently great annoyances and trouble arise in its use. That this test has so long held the lead in general use seems altogether singular in view of the above facts, more especially since it is a very simple matter to construct a permanent and equally trustworthy copper-test solution upon the same basis with slight alteration of the formula. Thus the following formula will, if prepared, furnish a solution corresponding exactly in strength and reactions with Fehling's test, and, being perfectly stable, it may be kept in stock indefinitely:

℞	Copper sulphate, pure	ʒ iv;
	Caustic potash (in sticks)	℥ jss.;
	Glycerin, pure	f ℥ ij;
	Distilled water to	Oj.

Prepare by dissolving the caustic potash in part of the water, and adding the glycerin. In another portion of the water dissolve the copper sulphate. Slowly mix the two solutions, and with distilled water bring the volume of the whole to one pint and filter.

In testing for sugar with this solution, proceed as with Fehling's test, as follows: Pour into an ordinary test-tube about one fluidrachm of the test solution and add an equal amount of distilled water. Bring the whole to the boiling point, and, while gently boiling, add the suspected urine to the extent of half a drachm or more. If sugar is present in considerable quantities, the first few drops of urine will cause a yellowish precipitate of suboxide of copper which gradually deepens into red. If no such precipitate occurs after adding the urine to the extent of a drachm, sugar is absent.

A very excellent form of copper test for sugar in the urine, as well as exceedingly simple in preparation, is that devised by Professor Haines, of Chicago, as follows: Take of pure sulphate of copper, thirty grains; distilled water, half an ounce; make a perfect solution and add pure glycerin, one half fluidounce; mix thoroughly, and add five ounces of liquor potassæ. In testing with this solution, take about one fluidrachm and gently boil it in an ordinary test-tube. Next add from six to eight drops of the suspected urine and again gently boil. If sugar is present, a copious yellowish or yellowish-red precipitate is thrown down. If no such precipitate appear, sugar is absent. With this test not more than eight drops of urine must be added in testing.

With both these tests a whitish deposit is sometimes thrown down—phosphates of calcium and magnesium—in consequence of the strongly alkaline character of the test solutions. This should not be taken as an evidence of the presence of sugar.

It is well to bear in mind the fact that the copper tests are liable occasionally to lead to erroneous conclusions as to the presence of sugar in the urine. Certain normal constituents of the urine—notably uric acid, urates, creatinin, mucus, etc., as well as certain occasional constituents, such as oxybutyric acid, urochloralic acid, uroleucic acid, and uroxanthic acid, as well as such drugs as tannin, morphine, salicylic acid, and carbolic acid—possess more or less reducing power over the copper tests.

The normal elements of the urine possess but feeble reducing powers over these tests, and therefore the errors just referred to are actually encountered but rarely. Since, however, such errors are possible, it is well in cases of doubt to appeal to such methods as may be considered absolutely trustworthy. Fortunately, we have in the phenylhydrazine test one that is entitled to be considered positive in its capability of detecting sugar. This test is most conveniently conducted as follows: First introduce in the bottom of an ordinary test-tube a layer of phenylhydrazine or its hydrochloride, say half an inch in thickness; upon this place another half inch of sodium acetate; next add water to one fourth the capacity of the tube; and, lastly, add sufficient of the suspected urine to half fill the test-tube. Gradually bring the whole to the boiling point and boil for about one minute, and then decant into a conical glass vessel and set aside to cool. When thoroughly cold, take up a few drops of the sediment from the bottom of the glass vessel with a pipette, and place them under the microscope. If sugar is present, very peculiar, yellow, acicular crystals will be readily seen—phenylglucosazone—which are altogether characteristic. They have a marked tendency to crystallize in stellate or rosette form, or in bundles, like sheaves of wheat. If no such crystals are to be seen after the test has stood for from six to twelve hours, it may be confidently stated that the urine is free from sugar. The round, yellow globules often seen are no evidence of sugar. This test reacts only with *glucose, maltose,* and *lactose.*

Having determined the presence of sugar in the urine, it may be desirable to know the quantity thereof. This may be accurately determined by my quantitative method in about five minutes as follows: First prepare a test solution according to the following formula:

Sulphate of copper, pure...........	½ drachm;
Caustic potash, pure..............	2½ drachms;
Strong ammonia water (sp. gr. 0·9).	5½ fluidounces;
Glycerin, pure....................	6 fluidrachms;
Distilled water to................	1 pint.

Dissolve the copper sulphate in part of the water and add the glycerin. In another portion of the water dissolve the caustic potash. Slowly mix the two solutions and add the ammonia. Finally, with distilled water, bring the volume of the whole to one pint and filter.

The test should be applied as follows: Into a four-ounce glass flask pour thirty cubic centimetres (about f ℥ j) of the test solution and add an equal bulk of distilled water, and bring the whole to the boiling point over a spirit lamp. A pipette graduated in minims and holding not less than half a drachm is now filled with the saccharine urine to be tested, and while the solution is boiling the urine is slowly discharged from the pipette, drop by drop, into the test solution until the blue color completely vanishes and leaves the solution perfectly colorless and clear. The number of minims it takes to discharge the blue color of the solution contain just one fourth of a grain of sugar. By multiplying this number of minims until the product is four hundred and eighty, the multiple represents the number of quarter grains of sugar to the ounce, which, if divided by four, gives the number of grains of sugar in each ounce of the urine submitted to the test.

In testing, the solution should be raised to the boiling point and kept slowly boiling, while the urine should be slowly added drop by drop, about five seconds elapsing after the addition of each drop until the blue color *begins to fade;* then the drops should be added still more slowly in order that the precise quantity may be determined that causes complete decoloration.

After testing, the test solution slowly resumes its blue color upon cooling, owing to absorption of oxygen from the atmosphere, and reforming of the blue protoxide of copper from the suboxide held in solution by the ammonia. The most accurate results are reached, as well as the greatest convenience attained, in testing by means of an apparatus consisting of a glass retort and stand with graduated burette.

Significance of Sugar in the Urine.—It may be safely stated that, if sugar be found in the urine of the applicant, the risk should be unhesitatingly declined. It is true that most authors recognize a so-called harmless form of glycosuria, as well as the severer grades of diabetes; but it is also true that either form may pass into the other at any time during its course. Advanced observers upon the subject are rapidly tending toward the conclusion that in all cases sugar in the urine is symptomatic of grave disease of either the brain, liver, or pancreas. It is true that all cases are not progressive, but a large percentage of them are, and that toward a fatal termination, and any case may become rapidly so at any time. It has been truly said that "a man with sugar in his urine is like a house that is undermined"; we may be assured that it will fall, but the precise time when it will fall no one can tell. To accept a glycosuric applicant for life insurance because his case is a mild one, or because only *small quantities* of sugar are found in his urine, would be in no wise safer than to accept a subject of chronic Bright's disease because the albuminuria was of a mild grade. It is the morbid condition back of the abnormal urine, and not the latter itself, that constitutes the danger, and this danger is often as positively indicated by a small as by a large amount of the abnormal products found in the urine.

Microscopic Examination of the Urine.—In conducting microscopic examinations of the urine for life insurance, it is absolutely necessary not only that the urine should be freshly voided, but also that it should be kept strictly from decomposition until examined. Casts, epithelium, and pus corpuscles rapidly undergo desiccation in decomposing urine, so that their diagnostic features soon become indistinct or altogether obliterated, and, moreover, the microscopic field is likely to become clouded by bacteria, thus rendering a satisfactory examination impossible. In order to avoid these complications, the medical examiner is advised to proceed as follows: Having procured a freshly voided sample of urine, it should be charged with the resorcin solution already described. Pour into the bottom of a conical glass vessel about a fluidrachm of the resorcin solution, and, after inverting the bottle containing the urine two or three times, decant about three ounces of the latter into the conical glass, carefully cover the glass, and set aside undisturbed for twenty-four hours. At the end of that time take up from the bottom of the conical glass two or three drops of the urinary sediment by means of a nipple pipette, and place them on a perfectly clean glass slide, preferably one with a shallow cell in the center. Carefully adjust a clean cover glass over the cell in such a manner as to avoid the presence of air bubbles, and examine the field under a quarter-inch objective.

In scanning the microscopic field it should be borne in mind that the most difficult objects to find, as well as the most important, are the perfectly clear hyaline casts. So entirely transparent are these structures that, with too much or too direct illumination, they often remain undiscoverable, even in the center of the field. By so adjusting the sub-stage mirror of the microscope that the rays of light are thrown very obliquely across the field—so obliquely, in fact, that much of the light is shut out—the shadows of the casts will often appear, or perhaps the marginal outlines of the casts themselves may be discerned. Now, by careful focusing by means of the fine adjustment-screw, these important objects may be brought quite plainly into view.

Sometimes, with all these precautions, hyaline casts remain indistinct in parts of their outlines, leaving doubts in the mind as to the true nature of the objects seen. In such cases, by slightly pressing upon both ends of the glass slide, slight currents will be created in the urine between the slide and the cover-glass, causing the cast to move and often to roll over, and the changed position of the cast often enables one to recognize its true character at once.

By attention to the above-mentioned details all the morbid products in the urine will be more easily found. The granular, epithelial, and blood casts are usually quite readily found; in fact, they are not easily overlooked if the instrument is properly focused.

In addition to casts in the urine, blood-corpuscles and free renal epithelia should be carefully sought for and noted when found. Certain inorganic products should likewise be sought for, more especially the brownish-colored rhombs and six-sided plates of uric acid, the envelope-shaped crystals of calcium oxalate, and, above all, the triangular prisms and star-shaped feathery crystals of triple phosphates.

Significance of Urinary Sediments.—By most authorities renal casts are considered to be the crucial test of organic changes in the kidneys. In a positive sense this may be accepted as strictly true, and, therefore, in all cases the discovery of renal casts in the urine renders the applicant ineligible for life insurance.

It must not always be concluded, however, that because no casts are found, the kidneys are free from disease. It has already been shown that some casts—notably hyaline ones—are notoriously difficult to find, and they therefore sometimes escape discovery.

In those cases in which other symptoms point strongly toward renal disease the failure to find casts must not be allowed to carry too much negative weight.

Pus corpuscles when present are often valuable guides in the construction of a diagnosis. They may explain the source of a slight albuminuria when the kidneys are perfectly sound, as evidenced by otherwise normal conditions of the urine. On the other hand, when associated with deposits of triple phosphates in the urine, pus corpuscles guide us pretty accurately to a diagnosis of cystitis.

If considerable deposits of uric-acid crystals are found in the urine, special inquiry should be made with the view of ascertaining any history of severe attacks of pain in the back. Should such attacks be of frequent or occasional occurrence, under the circumstances the applicant is clearly the subject of attacks of uric-acid gravel, and therefore ineligible for life insurance. Should a considerable deposit of calcium-oxalate crystals be found, associated with the same symptoms—viz., severe attacks of pain in the back with retraction of the testicle on the affected side—we may conclude that the applicant is a subject of oxalic gravel which would debar him from acceptance.

Of the triple phosphate prisms nothing further need be added save to say that they are nearly always associated with pus corpuscles, and indicate pathological states of the bladder that debar the applicant from life insurance.

Rules.

1. If albumin is found in the urine, do not recommend the applicant for insurance because the quantity of albumin present is small, even though it be mere traces.

2. If albumin is present in the urine and the applicant is over forty years of age, decline the application.

3. If albumin and renal casts are found in the urine, decline the application regardless of the age of the applicant or the quantity of albumin present.

4. If albumin is found in the urine in large amounts—two or more grammes to the litre—decline the application.

5. If the applicant is of middle age or over and has always been a generous eater, especially of meat; and if he rises regularly at night to void considerable quantities of clear urine of low specific gravity; and if, in addition, there is decided tension of his pulse with accentuation of the second sound of the heart, decline the application even though the urine is free from albumin.

6. If true renal casts are unmistakably present in the urine, either epithelial, granular, fatty, hyaline, or composite, decline the application even though the urine is free from albumin.

7. If the specific gravity of the urine is normal (1·020) or above, but it contains albumin at times while at other times it contains none, especially on rising in the morning, and no casts are present in the urine of an applicant who is under thirty years of age and apparently in good health, the albuminuria is doubtless of the so-called functional form, and, in the discretion of the home office, the application may be accepted for a ten-years' endowment policy. As yet, however, such risks can not be considered altogether safe for life policies.

8. If the applicant is subject to frequent or occasional attacks of gravel—one or more of which was recent—the application should be declined.

9. If the applicant has had one or more attacks of gravel and more or less dull pain is present in the renal region, and the urine is more or less turbid from the presence of pus, the application should be declined.

10. If the applicant has had attacks of gravel, but five years have elapsed since the last attack, the urine remaining perfectly normal, and no pain is present in the region of the kidney, the application may be accepted.

11. If the applicant is over fifty years of age and voids his urine with more or less slowness and difficulty at times, the stream being small, forked, or dropping, and at times involuntarily shutting off before the finish, and if he rises regularly at night to void urine and is subject to periodical attacks of frequent urination, the application should be declined, even though the urine itself is in every respect normal.

12. If the urine contains sugar, the application should be declined.

13. If the urine is turbid from admixture with pus or blood, the application should be declined.

Original Communications.

ACUTE TRANSITORY BLINDNESS AND WHOOPING-COUGH.

By GEORGE W. JACOBY, M. D.

Bilateral loss of sight of brief duration, and occurring suddenly in patients whose state of health does not direct our attention to any possible ocular complication, must be considered an event of the greatest interest to the neurologist as well as to the ophthalmologist. Such a complication has been known to occur occasionally in certain blood states and to be of frequent happening in cases of uræmia. In the latter condition, in addition to the blindness, other serious uræmic symptoms, such as disordered consciousness and convulsions, are generally present. But cases have been described as occurring after acute diseases in which, notwithstanding the absence of any uræmic manifestations, the symptom of blindness was ascribed to uræmia, this condition having been assumed to exist from the fact of the urine having been albuminous. Such cases have been most frequently described as occurring after or during scarlet fever, but their occurrence after typhoid is also known.

Cases of this kind were, so far as I know, first described by Ebert in 1868, when he reported three cases of transitory blindness occurring after or during scarlet fever, and one case supervening upon typhoid. All of Ebert's cases also showed symptoms of nephritis.

Cases of transitory blindness occurring after other acute diseases and unassociated with nephritis or uræmic symptoms must be of great value in assisting the formation of any conclusion as to the nature of the pathological process which produces this alarming symptom. I am able to report two such cases, both of which occurred during an attack of whooping-cough. Two similar cases also occurring during whooping-cough have been previously reported by Alexander. My cases were as follows:

Case I.—Seen first on November 15, 1888. F. L., a girl six years of age. I saw the child in consultation with Dr. D. Froehlich, of this city. The girl had had various diseases of childhood, all of which passed over without any serious complications. When two years of age she had an attack of pneumonia, during which she also had convulsions; complete recovery from this attack was made. At various times the child had complained of severe occipital headache, which each time proved to be a prodromal symptom of some other affection (measles, dysentery). The other children of the family have recently had or are just recovering from an attack of whooping-cough. Since several weeks this child also has had a spasmodic cough, which presents all the characteristics of pertussis, but in a mild form; vomiting has occurred several times, but always in conjunction with an attack of cough; occipital pain was also present in the same manner as it had been on the occasion of former sicknesses. The day before yesterday, the mother coming home in the early afternoon, having left the child playing when she went out, was greeted with the remark, "Why did you stay out so late? It is so dark." The mother, attracted by these words, noticed the staring expression of the child and soon became aware that the child was blind. An ophthalmological examination, made by Dr. Gruening the ensuing day, resulted as follows: Pupils dilated *ad maximum*, without reaction to light or to convergence. Ophthalmoscopically, neuritis on both sides without any hæmorrhages into the opticus. Quantitative perception of light.

The succeeding day, when I saw the patient, I found a child showing no objective symptoms of any kind, except the ocular ones, which could be referred to the nervous system. The child's appearance was cachectic, but she was cheerful and did not complain of any ill feeling. The reaction of the pupils was as described above. The kidneys and heart were normal. No headache, vomiting, or fever. The following day (16th) the right pupil reacted to light; child says that she can see. An examination showed that vision was limited to the right eye, and that with this eye the patient could recognize large objects, such as a watch, at five inches. The child was again seen by me on the 18th, when it was noticed that the left pupil also reacted to light and that large objects could easily be distinguished with both eyes. On the 20th further improvement of vision was noted. On the 23d she was also seen again by Dr. Gruening, whose report was, "Pupils react to light and to convergence; the child can count fingers at a distance of the length of the room. Ophthalmoscopically, papillæ slightly hazy."

November 28th.—Improvement has been constant; vision now normal; ophthalmoscopic examination negative. Since that time the child has been and is now perfectly well.

Case II.—October 8, 1890; M. C., boy aged eight. Patient has had a whooping-cough since the end of August. The course of the affection had been a perfectly normal one until the 1st of October. The spasms of cough were not unusually severe, and there were no complications of any kind. The boy, who had always been anæmic, had at various times before and after the attack of cough complained of headache and had also vomited frequently during the paroxysms of cough, but both headache and vomiting were only temporary occurrences. On October 1st, contrary to his general habit, he was peevish and irritable. In the afternoon he complained of intense headache and vomited several times spontaneously (without having taken food or having had an attack of cough). The night was passed quietly. The following day, headache and vomiting continuing, the child was, by advice of the physician, placed in a dark room with ice to its head. The headache and vomiting ceased, but the boy was kept in the dark room for three days. During this time he frequently said that he could not see, but the mother attributed this solely to the darkness of the room and did not think it necessary to mention the fact to the attending physician. On October 5th the child was taken from the dark room, and it then at once became apparent that he could not see; all its actions were those of a child totally deprived of vision. The condition of the patient when I first saw him on October 8th was as follows: Child well nourished and playing (jumping in bed). No complaints of any nature. Temperature and pulse normal. Heart normal, urine acid, specific gravity 1·015. No albumin, no paresis of any muscles; sensation, superficial and deep reflexes normal; hearing and smell normal. The child, however, was totally blind; he was unable to distinguish light from darkness, even when a lighted candle was held close to his eyes. Externally, the eyes were normal, the pupils were of medium size and reacted well to light, the media were clear, and the fundus was normal. This condition of complete blindness unassociated with any other symptom lasted unchanged until October 10th, when a rapid change for the better occurred; it was then noted that the child could distinguish objects and count fingers at six feet, but it was also noted that this could only be done when the objects were held upon the left side of the patient. A perimetric examination was not made, but, as the child was a very intelligent one, there was no difficulty in observing, with the aid of a white object against a black board, that well-marked right hemianopsia existed. This condition remained stationary for twenty-four hours, and on the 12th it was not present any more, the child being able to recognize objects at ten feet, although not as well upon the right side as upon the left. Two days later vision was normal for the entire field. Since then the child has remained well.

In what I believe to be a complete survey of the literature of the subject of blindness after or during whooping-cough, the following were the only references which I was able to find: Knapp, in 1874, published a case in which the pupils responded promptly to changes of light, and ophthalmoscopically an ischæmia retinæ was found. Knapp thinks the ischæmia retinæ was caused by hæmorrhagic effusion into the sheaths of the optic nerves, or, more probably, by the general anæmia and weak cardiac action of the patient. The remarks made by Knapp in connection with this case are so interesting that I will reproduce them here. He says: "Blindness is a very rare symptom of whooping-cough. When, on the occasion of a case of that kind, I asked some of my New York colleagues about its occurrence, Professor Loomis told me that blindness in whooping-cough had been observed, but almost exclusively in children who afterward died from lobular pneumonia. According to that, blindness in whooping-cough would be an ominous symptom." This patient of Knapp's died in the same manner. Steffen, speaking of whooping-cough, says: "We must also refer to blood stasis, the observation of Sbregondi, according to which a girl six years of age is said to have been blind each time during the attack. A year ago I treated a girl of eight years who during the attack saw indistinctly, but also, as long as the spasmodic stage lasted, part of the acuity of vision was lost in the intervals of the attacks."

Smith has published a case of severe whooping-cough, chronic broncho-pneumonia, first right then left hemiplegia, failure of vision, unconsciousness, spasmodic respiration, and almost complete general insensibility of the surface, with ultimate recovery. The temperature in this case was subnormal; the pupils were largely dilated, with complete failure to respond to light.

Silex reports the case of a girl a year and three quarters of age who three months before had whooping-cough; also accidental poisoning with morphine; recovery from the effects of the morphine; then a paralysis of the right side and a strabismus divergens of the left eye was noticed. On the fourth day after the accident reflex action of the pupils was present, but approach of the finger did not cause closure of the eyes. On the twelfth day the paralysis had disappeared and the child was conscious; the sight was then tested and it was found to be less than before the accident. Examination three months later showed that the child did not see objects on its right side. After three months more, recovery took place. Silex believes that in this case there was a hæmorrhage in the posterior part of the internal capsule, and explains the transient hemianopsia by pressure on the tractus opticus.

Alexander's two cases, to which I have already referred, are as follows: Boy aged three years; since July, severe pertussis with long-continued spasmodic stage. In August, cerebral symptoms, fever, terror nocturnus, irritability, lack of playfulness, and frequent vomiting, both spontaneously and upon taking food. On the morning of August 3d the parents observed that the child could not see. A physician noted complete blindness. Alexander saw the patient the same day and found complete bilateral loss of sight; temperature 38·2° C., urine free from albumin, internal organs normal, muscular movements intact; pupils of medium size and reacted well to fixation and to light; media clear and fundus normal, but the central vein seemed somewhat enlarged, the arteries, however, being of normal caliber. Total loss of sight continued, cerebral symptoms increased, twitchings of the extremities supervened, the child became comatose, and, under symptoms of cerebral pressure, death took place after fourteen days.

His next case was still under treatment at the time of publication. A girl had had pertussis, and fourteen days prior to the occurrence of the blindness she complained of headache. About the middle of September the child complained of objects appearing hazy; gradually the sight became more and more affected, and on October 3d Alexander found complete blindness. There were no other symptoms of any kind, and the urine was free from albumin. The child could not see a large flame; both pupils were dilated and rigid, without any reaction to light or to accommodation.

Ophthalmoscopically, neuritis optica bilateralis; both papillæ somewhat swollen, opaque, contours blurred but recognizable. No hæmorrhages. Under treatment, first the right and then the left pupil began to react. At the same time the sight improved, and on November 1st fingers could be counted at eight inches; middle of that month sight was $\frac{17}{200}$, and on the 25th $\frac{17}{100}$; ophthalmoscopically, a retrogression of the neuritis was noticeable; at the time of publication atrophy of the optic nerves had set in, and hope of complete recovery was not warranted.

If we analyze these nine cases we find that only four of them are available for any deductions or generalizations, these four cases being Alexander's and my own. Knapp's case was published at a time when less attention was paid to the significance of the pupillary reaction, so, notwithstanding that in this case the pupils reacted promptly to light, Knapp thought the blindness was due to ischæmia retinæ. The other data given are too sparse to enable us to form an opinion of the case. The references to Sbregondi's and to Steffen's cases are of value in so far only as they show the occurrence of blindness in whooping-cough. In Smith's case the failure of vision was a part of other severe focal symptoms; the complication of symptoms renders the case uninstructive. Silex's case was unfortunately complicated with poisoning by morphine, and it is, therefore, not possible to say whether the assumed cerebral hæmorrhage was due to the whooping-cough or not.

An analysis, however, of Alexander's cases and my own, taken together with the reported cases of blindness after scarlet fever and typhoid, shows us that we are dealing with two kinds of cases—those in which the pupils react to light, and those in which this action is abolished. That in both of these classes we are dealing with some intracranial process there can be no doubt, and the significance of the difference in the pupillary reaction is not to be sought in this direction; it is as an indication to the seat of the process that this difference will serve.

What the exact place affection of which abolishes the light reflex is, if we except the experiments of Mendel, only hypothesis; it is, however, unnecessary for our present purpose to know the precise anatomical location of this place. From reasoning and from experiments we can be certain that this place is situated somewhere in the reflex arc between the opticus and the oculo-motorius; that the place must be sought somewhere in the brain, between the seat of certain fibers of the opticus (pupillary fibers) and the place of origin of the branches of the motor oculi which supply the sphincter iridis. We also know that the reaction of the pupils to light depends upon the uninterrupted conduction from the retina through the opticus to the corpora quadrigemina, and thence through the theoretical connection to the oculo-motorius.

Von Graefe, in the discussion of Ebert's paper, called attention to these facts and to the deductions from them; that, according to the reaction of the pupils, the seat of the causal affection will be retrobulbar, if no reaction of the pupils to light is present; whereas if this reaction is preserved, then the seat of the lesion must be situated at some point between the corpora quadrigemina and the seat of light perception in the brain. The value of this distinction in the location of the process lies in its prognostic significance, for, as von Graefe says, if the pupillary reaction to light is present, then the prognosis as regards recovery of sight is always favorable, excepting, of course, processes of such a nature that death is thereby caused; while, on the other hand, if the reaction of the pupils is lost, the process being retrobulbar, there may be permanent loss of sight. The prognosis of these cases, however, can not be formed from the location of the process alone, but will also, as in every other affection, depend upon its nature. As in many of these cases recovery has taken place in a very short period of time, we must assume some transitory brain process; what this process is, pathologically, has been a matter of some dispute, and is still undecided. Ebert believed the process to consist of an acute transient œdema. Notwithstanding the fact that, neurologically, the term œdema cerebri, whether used as a term explanatory of the cause of death or whether used *intra vitam* as an explanation of certain symptoms, is to-day treated with but scant courtesy. I must admit that, in view of my cases, I can not do otherwise than concur in Ebert's opinion. In support of this view, I may be allowed to adduce the following facts:

Transitory bilateral blindness occurs most frequently during or after scarlet fever. In this disease also do we most frequently see transitory œdema of the skin, which changes its position from day to day. Also in this disease are patients not uncommonly attacked, while feeling perfectly well, with headache, vomiting, "uræmic convulsions," followed by death within a few hours, and upon autopsy a highly anæmic or highly œdematous kidney is found; frequently such patients recover as suddenly as they were attacked. Furthermore, in such cases of scarlet fever, cerebral complications are frequent, for which, after death, no explanatory changes can be found except an œdematous infiltration. Also is it probable, according to the investigations of Traube, Rilliet and Barthez, and others, that the so-called uræmic symptoms in many cases of scarlet fever are due to an œdema of the brain, analogous to the œdema of the kidney, but not in any way dependent upon any kidney affection. Finally, Leichtenstern has observed the following cases of scarlet fever: 1. A case of gradually developing uræmic coma, without any other antecedent uræmic symptoms, which upon autopsy showed only anæmia of the brain with moderate œdema. 2. A case of uræmic hemianopsia in an intelligent boy, following upon severe convulsions. 3. A case of uræmic aphasia without obscuration of the sensorium. From these cases Leichtenstern draws the following deductions: That œdema of the frontal lobes and hydrops ventriculorum produces the so-called uræmic coma; that bilateral uræmic convulsions and uræmic hemiplegia are dependent upon a more intense affection of the cortical motor area or of the motor tracts of one hemisphere; that the uræmic headache is dependent upon anæmic irritation, or upon inflammatory œdema of the cerebral membranes; finally, that bilateral uræmic amaurosis with normal pupillary reaction is dependent upon anæmia and œdema of both occipital lobes, while œdema of only one occipital lobe produces the corresponding hemianopsia; and that the uræmic amaurosis with absent pupillary reaction is dependent upon an œdema of retrobulbar parts anterior to the corpora quadrigemina, provided that a retinal œdema could not also cause such amaurosis. Leichtenstern does not doubt that unilateral uræmic amaurosis is produced in the way last mentioned.

It is not my intention to enter now upon the question of the pathological diagnosis "œdema cerebri," nor even to maintain the existence of a non-inflammatory form of cerebral œdema, for the reason that neither of these questions are germane to my subject; but this much is certain, from the above cited and from other studies, that the existence of an inflammatory œdema is a positive scientific fact as regards which there ought to-day not be any doubt, notwithstanding all assertions to the contrary. As Huguenin has clearly stated, the only question upon which there can be any difference of opinion is as to what we should consider an œdema, but that if we look upon the term œdema as synonymous with encephalitis, then in the majority of instances we will be clear in our ideas. Of course the question of inflammatory œdema after acute diseases is one which is still surrounded by darkness; but it seems to me that even in these cases the mode of production is not difficult to understand, if we are willing to admit that the inflammatory œdema here is caused by direct action of infectious material. It is not difficult to conceive how, in whooping-cough, the direct action of the *Bacillus pertussis* (Dolan, Burger, Schwenker) can produce these results; neither can any argument against this reasoning be found in the results obtained from post-mortem examinations of the brain and meninges in ordinary cases of pertussis, for in such autopsies injection and enlargement of the vessels, with cerebral engorgement and ventricular effusion, are found, but signs of softening are wanting. The vessels of the membranes, not only of the brain but of the cord as well, are also found in this condition.

Having thus specified the position which I take in regard to this question, I am now able to briefly discuss the significance of my cases. The first case—with the sudden onset of total blindness, with rigidity of the pupils and slight retinal changes, with rapid re-establishment of the light reflex and vision in the right eye, followed by improvement of the same factors in the left eye, together with complete restoration of vision and disappearance of all ophthalmoscopic changes in the retina in less than two weeks, all of which occurred without any other cerebral symptoms whatever—can not possibly be understood in any other way than by the assumption of a cerebral œdema. Whether this œdema was retrobulbar alone, or also occupied a place between the corpora quadrigemina and the occipital lobes, can not be positively answered. On account of the re-establishment of the pupillary action to light inside of twenty-four hours, it would seem that the œdema anterior to the corpora quadrigemina must have been rapidly but unequally absorbed. As the re-establishment of the reaction to light was accompanied by re-establishment of vision and disappearance of retinal changes, it is probable that the entire œdema was situated anteriorly to the corpora quadrigemina. A question which I was unable to solve, and which would be of importance in this connection, is whether the pupillary reaction set in before a return of vision took place. To me it seemed as though both occurrences took place at the same time, although, on account of the rapidity of the amelioration, it is impossible for me to express myself upon this point with any degree of certainty.

The second case is, if anything, even still clearer. This child had marked symptoms of a cerebral type, followed by blindness with retained reactions of the pupils to light, followed first by hemianopsia and then by a gradual restoration of perfect vision, the entire period covered by these symptoms being but twelve days. The case throughout was precisely like those which occur during scarlet fever and which are termed "uræmic," except that here there was at no time any question of kidney disorder. What other affection than an œdema—at first implicating both occipital lobes, and then, as absorption set in, limited, for a short time only it is true, to one occipital lobe—can explain this case I am unable to see.

Alexander also believes that in his first case there must have been an œdema between the region of the corpora quadrigemina and the occipital lobes, and that recovery of vision was prevented only by the extension of the œdema to parts affection of which made a prolongation of life impossible. His second case was in many ways similar to my first, and I am unable to appreciate his reasons for making a diagnosis of meningitis in this case.

In whatsoever manner we may look upon the pathological side of these cases, we must not overlook the practical lessons which they teach us: that in whooping-cough, as well as in other acute diseases, sudden transitory blindness may occur, and, what is more important, that children so afflicted do not all die, but may recover, and with re-establishment of perfect vision.

References.

Ebert. Ueber transitorische Erblindungen beim Typhus und Scharlachfieber. *Verhandlungen der Berliner klinischen Gesellschaft*, 1867–'68, Berlin, 1871, vol. ii, pp. 64–67; also *Berliner klinische Wochenschrift*, 1868, Nos. 2 and 9.

Alexander. Erblindung nach Keuchhusten. *Deutsche medicinische Wochenschrift*, 1888, p. 204.

Knapp. Blindness from Ischæmia Retinæ — Whooping-cough. *Archives of Ophthalmology*, 1874, vol. iv, p. 448.

Steffen. Von Ziemssen's *Handbuch*, Leipzig, 1876, vol. iv, part 1, p. 277.

Smith. Whooping-cough complicated with Cerebral Effusion and Paralysis. *Medical and Surgical Reporter*, 1883, p. 449.

Silex. Apoplexie in Folge von Keuchhusten, mit transitorische Hemiopie. *Berliner klinische Wochenschrift*, 1888, p. 841.

Rilliet and Barthez. *Traité clinique et pratique des maladies des enfants.*

Leichtenstern. Ueber die 1880 und 1881 in Koeln herrschende Scharlachepidemie. *Deutsche medicinische Wochenschrift*, 1882, pp. 173, 246, 266, 310.

Dolan. *Whooping-cough, its Pathology and Treatment.* London, 1881.

Burger. *Berliner klinische Wochenschrift*, 1883, No. 1.

Schwenker. *Lancet*, Jan. 7, 1888.

A NEW METHOD OF REDUCING ANTERIOR DISLOCATIONS OF THE HUMERUS.

By CARTER S. COLE, M. D.,

ASSISTANT AT THE SURGICAL CLINIC, OUT-PATIENT DEPARTMENT OF THE NEW YORK HOSPITAL; INSTRUCTOR IN CLINICAL SURGERY AT THE NEW YORK POST-GRADUATE MEDICAL SCHOOL AND HOSPITAL.

It is proposed to treat this matter in a practical way, so it will be necessary to refer for questions as to the pathology or pathological anatomy to the well-known works on the subject.

In regard to the methods of reducing any dislocations, but especially those at the shoulder joint, it is unnecessary to offer an argumentative thesis on the advisability, where practicable, of employing those by manipulation and without ether.

The nomenclature here adopted needs a word of explanation, although the scope of the paper forbids the statement of the arguments that seem to justify the writer in adopting the same.

Under anterior dislocations are embraced the "subcoracoid," "subglenoid," and "axillary." The two latter are designated as "*low* anterior dislocations," the former as a "high anterior dislocation," and the term "medium anterior dislocation" means a not exaggerated form of either. The "intracoracoid" would be properly called an exaggerated form of the high anterior dislocation. We are dealing only with anterior dislocations.

Of the methods, by manipulation, for the reduction of anterior dislocations of the humerus, that of Kocher is by far the most generally applicable and successful that has hitherto been proposed. The one that is to be offered you differs from Kocher in the necessity for relaxation and the manner of obtaining it, in the extent of external rotation necessary, in the indifference as to posture of surgeon or patient, in the fact that adduction across the chest is generally superfluous, and, above all, in the rapidity of its application.

In at least one variety of anterior dislocations of the humerus (high subcoracoid) it has been quite fair to urge that in every recent case the attempt at reduction be made first by Kocher,* and, if this fails, other methods may be tried.

The features in Kocher's method, as originally proposed, were, it may be recalled, flexion of the forearm on the arm to 90°, adduction, external rotation, "practically until the forearm makes an angle of 90° with the antero-posterior plane of the body," † and, lastly, adduction of the arm and forearm upward across the chest (with, of necessity, internal rotation of the humerus), so that the hand of the affected limb should rest on the opposite shoulder.

At the Chambers Street Hospital, where the method has received a more extended application than anywhere else in this country, downward traction (recommended by Dr. Jersey ‡) has been added to the manipulations just given; and the patient assumes the dorsal decubitus, an assistant holding the unaffected shoulder squarely upon the couch.

The wonderful success of the method has fully warranted its general adoption, and it is not thought for a moment that the method about to be proposed would, or could, take the place of Kocher's; but I hope to show that the new method is logical, is natural, is quicker, does no harm even if it does not succeed, has no ill bearing on a subsequent application of Kocher's, applies to the low anterior dislocations as well as to the high, and, if for nothing else than the facility and rapidity with which it accomplishes reduction, deserves a trial in every recent case. I may add as a concluding argument for its employment that it is practically impossible to fracture the humerus by the new method, whereas by Kocher's method such an accident has happened more than once to Kocher himself.

The history of the method is brief: On February 3, 1889, I had the pleasure of seeing Dr. Lewis A. Stimson, easily and without ether, reduce a dorsal dislocation of the femur, "making the weight of the limb a coadjutor in the reduction instead of an opponent." # Reflecting on his method of obtaining muscular relaxation, it seemed to me highly probable that the same method applied to the humerus ought, with the proper manipulatory procedures, to as easily affect reduction of anterior dislocations of the humerus.

Those who have employed Kocher's method will recall the fact that it is seldom that the bone does not return to its place during external rotation, and it seemed rational, therefore, to expect to accomplish reduction by quick downward traction and external rotation, first allowing the arm to hang loosely by the side—that is, be adducted—and to this, for the sake of sweeping the head of the humerus well under the capsule, adduction of the arm upward and inward across the chest was added; but there has been no successful case in which the reduction was not accomplished by the first two manœuvres, and in most of the failures by the new method where Kocher's method succeeded at all, the third manipulation was necessary to effect the reduction.

An opportunity to carry out this idea did not present itself for more than two months, when a stalwart, semi-intoxicated longshoreman entered the dispensary of Chambers Street Hospital. Examination showed a typical medium high anterior (subcoracoid) dislocation of the left humerus. As we both stood, I took the patient's left wrist lightly in my left hand, flexed his elbow to an angle of 90°, and allowed his left arm to hang loosely by his side. Standing thus, detailing, for the first time, to my friends on the staff what I hoped to accomplish, chatting also with the patient, as I jostled the affected limb lightly, watching to catch the patient off his guard, I made, at a moment of complete relaxation, a quick, smart, downward stroke with my right hand on the anterior surface of his flexed forearm close to the elbow joint, following this immediately by slight external rotation, and this by adduction upward of the arm and forearm across the chest—all more quickly than I can now narrate it—and the reduction was accomplished.

The next case was one of the low anterior dislocation (axillary), the other form in which I had argued that the method would be applicable, and here, too, the same gratifying result attended the first effort at reduction.

The next four cases, all of the high variety (subcoracoid), making six successive cases, were all successful at the first attempt. Just at this point a timely failure was the starting-point for some reflections upon the range of applicability of the method. It was in a woman with a low anterior (axillary) dislocation that had existed for several days, possibly a week. No relaxation could be obtained, the parts were rigid, adhesions had begun, and all methods failed without ether. Reduction was easily effected under complete anæsthesia by the first method tried (Kocher's).

In regard to the statistics that I am going to present, allow me to say that the first twenty or twenty-five cases were unselected, and that since then, when relaxation has been obtained, as it should be, the failures have been few.

The first lot of cases, thirty-seven in number, are those of which there is a full record on the books of the Chambers Street Hospital. The next lot are additional cases given me by the individuals who have attempted reduction by the new method.

---

* Kocher's Method of reducing Subcoracoid Dislocations of the Humerus; a Plea for its Employment in every Recent Case. By Charles A. Powers, M. D. *Med. Record*, March 30, 1889. † *Loc. cit.*

‡ *New York Medical Journal*, September, 1880.

# Five Cases of Dorsal Dislocation of the Hip. By Lewis A. Stimson, M. D. *New York Medical Journal*, August, 1889.

There may be some cases in which the method has failed and no mention has been made of the fact, though I am certain that this is not true of my individual cases, and these I shall first consider, and only on these shall I base my contention for the recognition of the method as a valuable one.

I have twenty one cases—seventeen successful, four unsuccessful:

	No. of cases.	Successful.	Unsuccessful.
High anterior (subcoracoid)	15	12	3
Low anterior (axillary)	5	4	1
Exaggerated high anterior (intracoracoid [converted by traction into subcoracoid])	1	1	0
Total	21	17	4

The intracoracoid was by traction made a high anterior (subcoracoid), and then reduced.

All of those successful, except three, were successful *at the first attempt;* two of these were successful at the third, and the other at the second attempt. The duration of the dislocations in these cases varied from one to fifty hours.

The ones unsuccessful, four in number, had been dislocated from eight to forty-eight hours (eight, twelve, twenty-six, and forty-eight hours). In two of these the third manipulation of Kocher was necessary, in one (forty-eight hours) Kocher's, with anæsthesia, succeeded during external rotation, and in the fourth Kocher's was unsuccessful with and without ether. So much for my own cases. The remaining cases, of which I have a full hospital record, are sixteen in number—eleven successful, all at the first attempt; five unsuccessful. Four of the latter, all high anterior (subcoracoid), were reduced by Kocher's method after one or more attempts, and one (a low anterior dislocation) by traction at a right angle.

This gives the present total of cases of which there is a full record:

	No. of cases.	Successful.	Unsuccessful.
High anterior (subcoracoid)	28	21	7
Low anterior (axillary)	8	6	2
Exaggerated high anterior (intracoracoid [converted by traction into subcoracoid])	1	1	0
Total	37	28	9

To these I have to add the unrecorded cases—nine successful and five unsuccessful—and this brings us to thirty-seven successful and fourteen unsuccessful cases:

	No. of cases.	Successful.	Unsuccessful.
High anterior (subcoracoid)	40	28	12
Low anterior (axillary)	10	8	2
Exaggerated high anterior (intracoracoid)	1	1	0
Total	51	37	14

It will be seen that the method has been remarkably successful in low anterior (axillary) dislocations, the variety in which Kocher's most frequently fails—viz., in eight out of ten cases—and in the two unsuccessful cases Kocher's also failed, and traction at a right angle was necessary.

The length of time that the dislocation has obtained is an important factor in the success of the method, for, notwithstanding the fact that the method was successful in one case where the dislocation had existed two days, a large proportion of failures was in cases in which twelve or more hours had elapsed.

The method has been tried by eleven persons, and of these, nine have had successful cases.

Not to withhold anything unfavorable to the method, there were two cases in which a colleague had previously failed in which I was successful at the first attempt. In both cases he failed to make any external rotation.

In regard to the application of the method, it is to be remembered, first of all, that complete relaxation is essential to success. To accomplish this, the easiest way is to quietly converse with the patient or his friends, and distract his attention. If this be impossible, a weight on the flexed forearm, or pressure on the same by the surgeon's disengaged hand, may produce the desired effect.

If relaxation without ether is not obtainable, Kocher's or other methods are to be employed. It is well to warn the operator not to mistake for complete relaxation the flabby deltoid in the low anterior dislocations.

The posture of the patient or surgeon is, as before noted, a matter of indifference; one may sit while the other stands, or both may sit or stand.

We can say of the new method, as has been said of Kocher's: "It is practically without danger to the vessels and nerves," * and to this we may add the humerus itself.

A fracture of the humerus, radius, or ulna would be a contra-indication to the employment of the method.

In recent cases, those of less than twenty-four hours' standing, of anterior dislocations of the humerus, high or low (subcoracoid or axillary), a proper application of the method ought to be attended by success at the first attempt. In the intracoracoid variety of anterior dislocations we could convert the dislocation by traction into the medium form (subcoracoid), and then accomplish reduction by the new method. There may be cases in which upward traction across the chest, with internal rotation of the humerus, is desirable, but for the large majority of cases the steps are these: The wrist of the affected side lies loosely in the corresponding hand of the surgeon, the patient's forearm is flexed on the arm to an angle of 90°, and, at a moment of complete relaxation, the surgeon, with his disengaged hand, makes quick downward traction, followed immediately by slight external rotation.

The failures may be numerous, though this is not to be expected if the method is applied within the limits named; but the ease, simplicity, and rapidity of the method must commend its trial.

12 West Fortieth Street.

Changes of Address.—Dr. L. P. Bethel, from Toledo to Kent, Ohio; Dr. Frank N. Patterson, to No. 126 East Thirty-fourth Street.

---

* *Loc cit.*

A CASE OF DEAFNESS WITH ABSENCE OF THE DRUM MEMBRANE.

HEARING RESTORED BY TREATMENT.

By W. H. BATES, M. D.

O. H., aged fourteen, when three years old, had a purulent discharge from both ears, which was stopped by treatment. As he grew older, it was noticed that he had one-sided deafness. The parents consulted a number of prominent aurists in New York and Boston, who said that nothing could be done, because the left drum membrane was destroyed.

On October 21, 1886, I began treatment. Watch heard in right ear at twenty-six inches. Ordinary conversation heard with difficulty at five feet. With the left ear could not hear the watch or loud conversation. The snapping of finger-nails was heard at one inch. Hearing in both ears was improved a little by inflation with the Politzer air-bag.

The tuning-fork was heard through the air much better with the right ear, but the bone conduction was much better in the left ear than in the right. The right drum membrane was mostly cicatricial tissue; ossicles present. The left drum membrane was absent; the malleus could not be seen or felt with a probe. The right Eustachian tube was more open than the left.

Treatment consisted of inflation and the usual remedies for naso-pharyngeal catarrh.

November 4th.—Watch heard in the right ear at forty-eight inches; in the left at one inch. Still has one-sided deafness.

December 4th.—Watch heard in the right ear at forty-eight inches; in the left ear at thirty-six inches. There is now no longer one-sided deafness. With the right ear closed, ordinary conversation can be heard with the left ear at ten feet.

Treatment was stopped during the spring and summer months, when the hearing became somewhat less.

October 7, 1887.—Watch heard in the right ear at thirty-six inches; in the left ear at twenty-four inches.

A number of operations were now performed on both sides of the septum for the removal of enchondroma, after which the hearing in the right ear improved and the hearing in the left ear diminished.

November 12th.—Watch heard in the right ear at sixty inches; in the left ear at four inches. The patient now has one-sided deafness, but it is not so marked as it was when he began treatment.

April 20, 1888.—The patient reported for examination. Watch heard in the right ear at sixty inches; in the left ear at thirty-six inches. There is now absence of one-sided deafness, tested by ordinary conversation.

October 1st.—Watch heard in the right ear at sixty inches; in the left ear at forty-eight inches. The tuning-fork can now be heard by bone conduction in the right ear better than when he first came under observation.

December 1, 1890.—A letter states that the patient has still good hearing in both ears.

The points of interest in this case are:

1. Profound deafness relieved by treatment.
2. Inflation producing marked improvement in the hearing, with absence of the drum membrane.
3. The indication for treatment being the good bone conduction.

131 West Fifty-sixth Street.

Medical Progress.—Dr. L. S. McMurtry, Dr. J. M. Mathews, Dr. Dudley S. Reynolds, and Dr. John F. Barbour announce their retirement from the editorial staff of the Louisville *Medical Progress.*

LARYNGISMUS STRIDULUS.*

By WALTER LESTER CARR, M. D.,

NEW YORK.

Laryngismus stridulus is so alarming while it lasts that the physician is called upon to be prompt of judgment and action in dealing with it. Unfortunately, however, with the relief of the acute manifestation, he often fails to guard against the systemic weakness which caused it.

This condition of obstructed inspiration has been given various names by different observers, some of whom have regarded the dyspnœa as a disease in itself. Spasmodic croup, spasm of the glottis, child-crowing, laryngeal asthma, night croup, and the thymic asthma of Kopp—all relate to the immediate state of dyspnœa. Other writers have described it with more latitude, and thus we have mentioned the peculiar species of convulsions of Clarke, inward fits, croup-like convulsions, internal convulsions, and carpo-pedal spasms. The latter names give more accurate designations of the spasmodic character of the disorder, even though they fail in descriptive definition of the croup symptom.

The ætiology of laryngismus stridulus is regarded as important, and justly so, for the knowledge of its causation is the proper means of preventing its occurrence. The predisposing constitutional origin of the disease is rhachitis—not always of a severe type, such as we find with delayed dentition, craniotabes, and bow-legs, but with the irritable nervous system and catarrhs of mucous surfaces. Children who have been hand-fed, or those whose mother's milk is lacking in fat and albuminoids, are more liable to the disease than children who have been well nourished. Most of the cases occur during the period of the first dentition, but severe cases have been seen as late as the seventh year. In this way the spasm of the glottis may be developed somewhat late in children who early in life have had some convulsive disorder. Boys are more prone to laryngismus stridulus than girls, and, in my experience, their symptoms are more severe. The nervous weakness of rhachitis is an exciting cause of laryngismus stridulus, which must always be associated in an ætiological sense with rickets, for, without the primary malnutrition of the nerve centers, the ganglionic irritability would not be so increased as to permit of the loss of reflex control. The recurrent laryngeal divisions of the pneumogastric nerves which supply the adductors of the vocal cords are the nerves which are excited to increased action by peripheral irritation, usually of some other branches of the par vagum.

The immediate causes of laryngismus stridulus are improper food, indigestion, dentition, excitement, exposure, etc. Pressure against the soft spots of the rhachitic skull is also regarded as sufficient to induce an attack, but this is only in young children, for craniotabes is rare after the first year. Enlargements of the thymus, bronchial, and other glands, as well as hypertrophied tonsils and catarrhal laryngitis, are not usually immediate causes, although they are in many children evidences of vices of constitution of which rhachitis is the most frequent origin. Fat children are not predisposed to spasmodic croup, except in so far as their fat is due to a deposit in the tissues of imperfectly oxidized material, which deprives the blood of its most important constituent and the growing structures of their pabulum. In other words, these fat children are often rhachitic.

---

* Read before the Society of the Alumni of Charity Hospital, May 13, 1890.

The morbid anatomy of laryngismus stridulus is not understood. Descriptions of changes in the mucous membrane of the larynx and of inflammatory alterations in various organs have been given by different observers. The lungs have been found diseased and the brain has appeared congested. Glandular hyperæmia and enlargement have been mentioned. Investigations as to the state of the nerves and the ganglionic centers have not been productive of definite results. The pathological findings seem to be as unreliable as do the ætiological factors, except when we return to the primary cause of the spasmodic seizure—namely, the rickets—which has produced the weakened inhibition of peripheral irritation. As the laryngismus is a neurosis, the pathology and morbid anatomy are as unsatisfactory as they are in neurasthenia.

The symptoms of the spasmodic croup may be sudden and severe. If the obstruction to the entrance of air is great, the cyanosed and convulsed condition of the child is so alarming that the physician is called in haste, often totally unprepared for the case he is to treat. A child who has been apparently well awakens with a peculiar prolonged hissing or stridulous inspiration. If the spasmodic closure of the glottis is not complete, the inspiratory sound is prolonged and the stridulous effort is interrupted. When the spasm is very severe the sound is heard with the first inspiratory effort, but ceases almost entirely until just at the end of it. With the spasmodic obstruction the child shows the convulsive character of the disorder by the positions it assumes. The body is thrown in a rigid state with the head extended; the eyes are staring and the veins dilated, while the whole cutaneous surface, by its bluish color, gives evidence of the interference with aeration and circulation. There is a flexing of the fingers and toes, and carpo-pedal contractions and strabismus are not uncommon even in the mild attacks. These contractions are bilateral. The respiratory movements are interfered with by the spasm of the glottis, and atmospheric pressure causes a precordial depression and recession of the lower ribs with each effort at inspiration. The effect of the retarded circulation is shown by the pulse, which is small and rapid, or it may be intermittent. The temperature is not raised unless there is some cause for it in an intercurrent catarrh, disordered digestion, or complicating disease. The paroxysms vary in duration. If the immediate cause be a deranged stomach or some temporary irritation in a child of fair recuperative power, they will not last more than a few minutes. In the mild attacks peripheral counter-irritation will often relieve the spasm very quickly, or the obstruction to the ingress of air may cease suddenly as if the nerve centers had gathered their forces to prevent any further loss of control. The child will have a crying-spell, will appear a little dazed, and then will go to sleep. The severe convulsive paroxysms may be intermittent, but a degree of laryngeal obstruction will perhaps persist for some days, and a return of the convulsions will easily be excited. The danger of the prolonged or severe convulsive paroxysms is the interference with aeration, the congestion of the medullary centers, and the collapse of the lungs, or the weakness resulting from the attack.

The following is the clinical history of a case that recently came under my care:

Henry B., aged three years and six months, German parentage. The seventh child. Dentition began at the twelfth month; then cut seven teeth in one month, which is not unusual in those children where the dentition is delayed. Began to walk and talk about the end of the first year. Head perspired at night and the child was restless. When two years old had a convulsion with the appearance of the first double teeth. The boy was in convulsions and unconscious for seven hours. Since that time he has had a convulsion about once a month, when stomach and bowels were out of order. Never has the convulsions at night, and, if he vomits, is always relieved at once.

Sunday, April 13, 1890.—Had an attack of laryngismus stridulus which was severe. Face was blue and breathing was much obstructed. There were contractions of fingers and toes. On examination the next day, I found the right tonsil somewhat enlarged and a little congestion of the pharynx. There was slight laryngeal obstruction, and at times the effort was prolonged with the peculiar crowing sound. The diagnosis of laryngismus stridulus was made from the history. Treatment with chloral and bromide in an emulsion of castor-oil relieved the child after the second dose. He was given one drop of phosphorized oil, containing $\frac{1}{100}$ of a grain of phosphorus, three times a day, and has done well, with the exception of a convulsion brought on by eating a banana.

This boy's history and photograph bear testimony to the need of inquiring from the mother the precedent health of the patient. The photograph shows a well-nourished boy who bears few evidences of disease, and yet he has had convulsions for a year and a half, and has been a constant anxiety to his mother, who has been told that "the fits would grow on him." It will be observed that the bones of the legs are slightly curved and that the thorax is somewhat indented, but the physiognomy does not show that the boy is at all stupid. The forehead is a little prominent. From the history you will appreciate the following facts, which should aid us in our diagnosis of the causation of convulsions and laryngismus stridulus: The boy is the seventh child of poor parents; therefore, though he was nursed, it is probable that the milk furnished by his mother was not as nutritious as he required. His dentition was delayed, which is a positive indication that his food did not contain the necessary chemical constituents. The convulsions appeared whenever he was constipated or dyspeptic. The latter shows the catarrh and weakness of the alimentary tract that is one of the first symptoms of rhachitis, the former the want of control of nerve centers due to imperfect nourishment. The boy is bright—somewhat too bright for his age; children of this temperament are apt to be rather dull and stupid as they grow older.

The diagnosis of laryngismus stridulus should not be a source of trouble. There is nothing like the convulsive seizure of the severe form, and the milder attacks are readily separated from the pseudo-membranous and catarrhal laryngitis by the history and an examination.

The treatment of laryngismus stridulus during the paroxysm must be such as to relieve the child from the danger of prolonged apnœa. In the mild attacks, where there is not much weakness of the nervous system, the production of emesis, inhalation of ammonia, the application of cold to the neck, the use of an ice-bag along the cervical spine, the hot and cold douche alternately applied, or a hot bath, will be sufficient treatment at the time, the peripheral stimulation being powerful enough to prevent the continuance of the over-action of the nerve supply of the larynx. When the attack is induced by some indigestible food or by constipation, the administration of an emetic or cathartic is indicated. Routine treatment is not bad when drugs to empty the stomach and bowels are given. The severe convulsive seizures have to be treated promptly and surely. Anæsthesia by chloroform or ether is one of the means of relieving the alarming symptoms. It is not necessary to carry the narcosis to its full extent. Nitrite of amyl has been used, and it is claimed with good effect.

With the relief of convulsive breathing precautions can be taken to guard against a return of the spasm of the glottis. The stomach and bowels are to be given attention if the convulsion is found to be due to derangement of the alimentary canal. If the stomach is very irritable and the convulsive tendency severe, chloral may be given in enemata. In young children with craniotabes care must be taken that pressure is not made over the soft spots in the skull. As the period of dentition is the time when laryngismus stridulus is often seen, lancing the gums has been regarded as a necessary procedure. The use of the lancet is not indicated, and usually shows that the physician has not studied the case thoroughly enough to understand the cause of the disorder.

Antispasmodic treatment must be instituted to lessen the susceptibility of the nerve centers to afferent impressions. The bromides, especially the bromide of ammonium, zinc, musk, belladonna, antipyrine, chloral, and sulphonal are all good, but each case must be studied by itself and not treated by a drug because it is the latest addition to the materia medica.

The treatment of the constitutional dyscrasia is of the greatest importance, for without an effort made to increase nutrition the administration of symptom medicines will be of no avail.

The need of fresh air, sunlight, and attention to the hygiene of the nursery are to be inculcated on mother and nurse. The diet is to be carefully regulated. If the infant is nursing at the breast of a mother who can not supply her offspring with sufficient nourishment, it should have cow's milk and beef-juice once or twice a day, or else the baby is to be weaned and be given cow's milk properly prepared. The basis of all food should be the cow's milk so as to insure the fatty and proteid constituents required by the system. Pounded beef and mutton, or the juices from the meat, aid in building up the tissues, and they are great additions in treatment.

Cod-liver oil is one of the most valuable medicinal foods that we have for these cases. Whether it is to be given pure or in an emulsion will depend upon the digestion. When there is susceptibility of the nerve centers to irritation or a rhachitic weakness of the bones, the phosphorus treatment is of service. Anæmic children often require iron, but ferruginous preparations will not take the place of fresh air and good food, and in many cases they do not agree because of the weakened powers of the stomach.

HOT WATER
IN THE TREATMENT OF SURGICAL LESIONS.

By W. PAGE McINTOSH, M. D.,
PASSED ASSISTANT SURGEON, MARINE-HOSPITAL SERVICE, ETC.

Based on its therapeutic or physiological actions, but little either new or original can be said on the subject embraced in the heading of this paper, but clinically cases are always interesting, and serve to bring the mind back to most excellent remedial agents long known, near at hand, but still too often neglected or left out to give place to others of doubtful efficacy. It is scarcely to be presumed that any one practicing medicine at the present day is ignorant of the hæmostatic powers (not properties) of hot water, and yet scarcely a week passes that we do not meet some one who tells us of a wearing, trying day with a dangerous case of post-partum hæmorrhage. Out of the long list of remedies mentioned as having been tried, we listen in vain for "hot water"; but, *no.* After hypodermics of ergot, kneading, injections of various astringents, the introduction of the hand into the uterus (to be followed by who knows what?), he "just saved the patient by accidentally having a faradaic battery in reach." Aside from its ability to cause contraction of the muscular coat and lessen the caliber of blood-vessels, it is in just such cases, where it is possible to apply the remedy directly to the bleeding points, thus causing the muscle (in this case the uterus) to contract, that the most brilliant results can be obtained. After several years' service at a maternity hospital I can call to mind but one single case of post-partum hæmorrhage that hot water failed to control.

The ability of hot water, properly applied, to cause the rapid and favorable termination of surgical lesions is due, in part, no doubt, to cleanliness,* but mostly, I think, to the local effect on the nerves and vessels of the part, restoring the tone of vaso-motors, preventing or breaking up a venous stasis, as diapedesis can not take place during a blood stasis. This process is favored, but only to the extent of the reparative. The contracted vessels do not admit of an excessive transudation of liquid or of large numbers of white blood cells (leucocytes) migrating. The injury to the walls of the vessel, an essential factor in the process of inflammation, is so influenced as to favor resolution.

The following are selected from a number of cases as being illustrative:

---

* The fact that products of inflammation are constantly removed and not allowed to be taken up to poison the blood, easily accounts for the limits of fever.

Case I.—A. J., December, 1888, white, aged thirty-five years, previous health good. While unloading grain from a vessel, in Wilmington, N. C., received injury in following manner: A heavy plank, arranged somewhat after the manner of a see-saw—that is, supported in the middle by a large block, with both ends extending free. The object to be obtained was to place a load of grain on one end, then, by depressing the other, raise the load to the desired height. While standing waiting at one end of the plank, by accident a heavy load struck the other end. He sprang to throw himself on the plank, and succeeded in getting his head near enough to be struck by one corner of the lever in such a way as to fracture and depress some of the bones forming orbital cavity—the frontal, malar, and superior maxillary. The bones both above and below were so depressed as to force the eyeball from its socket and lay it out on the cheek. I saw him half an hour later. Hæmorrhage was considerable, and was controlled by hot water; at same time eye replaced, depressed bones raised, both above and below, parts dusted with iodoform, an opiate administered, and patient placed in bed.

At 9 P. M. rested fairly well.

At 9 A. M., considerable pain, parts swollen and discolored, subconjunctival ecchymosis surrounding the entire circumference of eye. Two drops of sol. atropine (four grains to the ounce) instilled into eye; pain controlled at this time with opiates. Temperature, 102°; pulse, 108. Ordered purgative dose of calomel. An irrigator was suspended to wall, a piece of rubber tubing five feet long attached, carried to bed, and fixed about six inches from and above eye; through this a small stream of water, as hot as could be borne, with one-per-cent. carbolic acid added, was allowed to run into and over eye. It is proper to state that condition of parts caused me to entertain scarcely any hope of saving the sight of eye. The hot douche was kept up for six hours steadily; swelling was slightly decreased; cornea cloudy; whole eye has appearance of dark clot of blood, with depression in center. Parts dusted with iodoform and left at rest for a couple of hours.

At 9 P. M., temperature, 103°; pulse, 120. Bowels moved with calomel; hot water again used for six hours, then atropine instilled, and cloths wrung out of hot water, changed every ten or fifteen minutes, used for the remainder of the night.

At 9 A. M. pulse and temperature same; patient delirious during latter part of night; wound very painful; swelling and œdema so great as to entirely deform face. Patient says hot water relieves pain to greater extent than anything else; atropine repeated; iodoform left off; hot water used constantly, one nurse and a convalescent being detailed for this duty only.

At 9 P. M., forty-eight hours after injury was received, the swelling is not so great as in morning. Cornea seems somewhat clearer, ecchymosis diminishing. Atropine used now only twice in twenty-four hours; hot water kept up constantly, small stream during day, and at night tube is brought to within an inch of eye and allowed to flow drop by drop all night; this does not prevent patient sleeping well. This treatment, with scarcely any modifications, was kept up for five days, at which time cornea is almost entirely clear. Subconjunctival ecchymosis nearly all absorbed. Swelling of face has subsided. The fractured bones have given some little trouble, but we managed to keep them fairly well in place. Can see with eye, but not allowed to use it. Following two days—that is, up to seventh day after injury was received—the hot water was used only every other (alternately) hour; discontinued on eighth day. Œdema, ecchymosis, and cloudiness have all disappeared. Sight of eye, while not up to normal (two thirds), is quite good. Owing to dressings of fractures, eye is not exposed to light. At end of three weeks case discharged, and, excepting very slight deformity from fractures and cicatrices of skin, result was perfect.

Case II.—This was one of concussion from gunshot wound received in following manner: While he was trying to uncap a No. 10 brass shell loaded heavily with ducking powder and shot, the shell exploded; the contents of the shell passed without doing further damage than that of tearing away the side of his coat, but the concussion tore the palm of the left hand in a fearful manner, making a gaping, ragged, dirty wound about an inch and a half by two inches and fracturing the metacarpal bone of the little finger; fortunately, the vessels of the palm were not seriously injured. Wound dressed with iodoform and fracture properly set; a few hours later, dressings were removed and hand immersed in hot water. The contused condition of soft parts was such as to lead to the conclusion that suppuration would be considerable. In order, therefore, to prevent absorption of any effete products and at the same time obtain local benefit of hot water, the hand was kept almost constantly immersed. Water was first boiled, to render aseptic, and allowed to cool to proper point, a small quantity of carbolic acid being added. Second day after receipt of injury the tendons of ring and little fingers were contracted so much as to draw fingers half way down to palm; after a few days these were put on the stretch. Contrary to expectations, sloughing, with loss of substance, amounted to *nil.* Pus formation was so slight as to cause surprise, though, of course, suppuration to some extent did occur. The hot-water treatment in this case, as in the first, did not in any way interfere with lesion of bone; if so, only favorably, as the callus could be felt on eighth day, and ends of bone could no longer be moved. The severity of the lesion, the wound being lacerated and contused badly yet healing without sloughing and with very slight suppuration, and the rapidity with which it healed, being nearly restored on ninth day, are, I think, points worthy of notice.

Case III.—This was of severely contused wound of foot (crushed). Seen in consultation. In connection with injury to whole foot, one toe (second) required amputation; this had been done, and, in sewing flaps together, no allowance, or insufficient, had been made for drainage. When seen, the foot was enormously swollen. Cellulitis had set in and the foot presented that bluish-black appearance seen in venous stasis where return flow of blood is almost entirely cut off. A bistoury was plunged into member to relieve tension and allow escape of fluid. Pus formation had begun, but was not complete. The foot was immersed in hot water and kept there for two or three days almost constantly, large hot poultices being used when not in hot water. Recovery rapid and satisfactory, resulting in perfect restoration. Hot water after incisions undoubtedly saved the foot, as amputation appeared to be the only recourse at time I saw him.

I am now treating a case of wound of the hand in which the end of the middle and ring fingers were mashed off. Ordinarily I should have amputated, but, as a working man needs all the fingers he has, I decided to try hot water. Saw the patient to-day. Amputation is unnecessary. These cases could be drawn out, or, rather, many others reported, but these I regard as typical, pertaining as they do to different parts of the body. My success has been gratifying, and, should the report of these cases be the means of saving a finger or toe to those who must labor to live, I shall feel amply repaid.

San Francisco, *December 11, 1890.*

THE
NEW YORK MEDICAL JOURNAL,
A Weekly Review of Medicine.
Published by D. Appleton & Co.
Edited by Frank P. Foster, M. D.

NEW YORK, SATURDAY, FEBRUARY 28, 1891.

THE OPENING OF THE JOHNS HOPKINS MEDICAL SCHOOL FOR WOMEN.

The much-discussed question of the fitness of women for the duties of the medical profession is again opened up in the Open Letter Department of the *Century Magazine* for February. Letters from representative men and women reflect the views of the more important component parts of our society, and they afford interesting subject for reading and for reflection.

Cardinal Gibbons, of Baltimore, looks upon this modern question from the standpoint of a churchman, and seeks among the opinions of ecclesiastical writers for rules to guide us in forming our opinions upon the subject. Ecclesiastical or canon law, he says, presents no obstacle to the education of women for the medical profession. The persons inhibited from pursuing the profession of medicine are priests, monks, and clergymen generally, but not women, and the weight of authority is positively expressed in their favor, while the opposite opinion does not appear to be entertained by any writer.

The authority of custom is decidedly on the woman's side. There were not only many brave men, but there were many brave women, before Agamemnon. His Eminence points out the fact that at the two most famous universities of the middle ages, those of Bologna and Salerno, there were female students and female professors, one of whom, at least, Anna Manzolini, attained great distinction as a professor of anatomy. In the present day not only is it permissible, but it is of importance to the well-being of society, that Christian women should devote themselves to the study and practice of our profession. The teaching of anatomy, in the opinion of the Cardinal, should be conducted in separate classes, but in other departments, and wherever the proper restrictions are observed, the co-education of the male and the female sexes will exert a beneficial influence on the male. The popular prejudice in favor of the female nurse and against the female doctor is worthy of all censure, and His Eminence concludes by emphasizing the opinion that in the moral regeneration of society there could be no more potent influence than the presence among us of an adequate number of well-trained female physicians.

Dr. Mary Putnam Jacobi considers that, unless all the opportunities, privileges, honors, and rewards of medical education and the medical profession are as accessible to women as to men, women physicians can not fail to be regarded as a special and distinctly inferior class of practitioners. It is essential to the efficiency and the reputation of women's colleges that women should not be educated exclusively in them. Women's medical colleges were founded in America because women were not allowed to enter the colleges already in existence. In Europe the establishment of small, isolated schools would have been an impossibility. In America "it is only recently that medicine has been regarded as a learned profession." We wonder what space of time is covered by Dr. Jacobi's "recently." True, it is "only recently" that America has been an independent nation, but it is news to us that at any period in our national history medicine was not a "learned" profession, and that it yielded precedence to either divinity or law. The medical schools of the country, according to Dr. Jacobi, were founded as private business enterprises by "irresponsible young men," who have persistently kept the standard of education low in order to keep up the standard of fees, and who have excluded women because their admission would be unpopular among students, known to be "as tenacious of their" dignity "as they were careless of their instruction." Surely the maker of these statements is mistaking abuse for argument. Those who have charge of our medical schools may possibly not be innocent of many faults, but they are not "irresponsible and young," though many of them might like to be so regarded. And is there to be no *tu quoque* to this statement?

Are the ladies in charge of our female medical colleges all old and responsible? Do they not collect fees for the instruction they give? Would they jeopardize the existence of their schools by admitting two or three quiet and well-behaved young men who elected to enter a female college because they firmly believed in the elevating tendency of co-education?

Professor Osler's open letter states clearly enough the position taken by the medical staff of the Johns Hopkins University. The means of study are there; if the women want them, let them come and take them. Let us try co-education, and not spend our time in constructing and magnifying the imaginary evils that are going to arise out of it. The result of Dr. Osler's observations on co-education in Switzerland is favorable to the plan. To all four Swiss schools women are admitted on quite equal terms with the men. Even in the dissecting-room no difference is made between the sexes. In Paris the same happy state of affairs was noted. At least four or five of the hospitals have now women on the house staff, and, as is well known, these appointments are gained by public competition.

Time alone will prove whether this venture on the part of the Johns Hopkins University will be successful. The university must constitute itself not only a center for female education, but a center for the very highest education attainable in the country. Untrammeled by tradition, with good laboratories, an active staff of young teachers, and a good bank account, the Baltimore institution may be looked to for good results.

TACHYCARDIA.

The study of rapid pulse has lately attracted the attention of the profession in the various large medical centers. First, there was M. Bouveret's elaborate essay in the *Revue de médecine* for September and October, 1889, which in an able manner brought the subject before the notice of the medical world. The condition, with which practitioners are familiar enough, he regards as a morbid entity, quite distinct from any cardiac affection, from tobacco or other poisoning, and from Graves's disease or any reflex cause. According to Bouveret, it depends upon a lesion of the vagus, because after death no alteration is found either in the cardiac muscle or in the nerves ending there. Under the title Paroxysmal Hurry of the Heart, Dr. Samuel West read a paper at a meeting of the Medical Society of London on March 10, 1890, and an interesting discussion ensued. The reader of the paper was of the opinion that, although in some cases organic disease of the heart existed, in the majority there was no definite evidence of structural lesion. The condition was most probably due to some organic lesion, more likely to be muscular than valvular. Many of the patients died with cardiac symptoms, some suddenly, as if of cardiac syncope; others of gradual cardiac failure, and that, too, in cases where there was no evidence of valvular disease.

Last month the subject was again before the public, this time at the Medical Society of Berlin, when Fräntzel opened the discussion by pointing out the necessity of distinguishing two distinct classes of cases. In the one the symptoms manifested themselves suddenly, remained for a short period, and disappeared just as suddenly; in the other the heart's action continued over-rapid for a number of years. The first class deserved the name of *essential paroxystic tachycardia*, for quick action of the heart was the only symptom that the physician could recognize. The second class of cases owed their origin to organic disease and constituted a symptom of certain diseases of the heart. In 1889 Fränkel admitted the existence of two kinds of tachycardia—one due to a paralysis of the vagi nerves, and another due to an excitation of the sympathetic, the latter being a rarer condition than the former. There is a difficulty in distinguishing one form from the other. Tachycardia arising from irritation of the sympathetic can be made to disappear by the administration of morphine, while the other form is under the influence of digitalis, at least in most instances. The forms of tachycardia which come and go spontaneously should not be allowed to take their course without treatment, for, although they may not of themselves be dangerous, yet they may dangerously complicate other disorders, such as congestion of the lungs, of the liver, or of other organs. Here digitalis is the proper remedy.

A. Fränkel had observed tachycardia in connection with organic heart disease, but he believed that it also occurred in persons whose hearts were in a perfectly sound condition. As to whether the vagus or the sympathetic was at fault, that was a matter of theory; but he had recorded a case in which he believed he had rendered it plain that the lesion was a paralysis of the inhibitory power of the vagus. It was noteworthy that sudden tachycardia occurred in connection with excitement, mental emotions, or muscular efforts. Morphine and digitalis were the two most reliable drugs in this condition. The facts that the heart and the stomach are supplied by the same nerve and that the two organs lie so close together explain the fact brought to the notice of the meeting by Klemperer, that dyspeptic conditions, especially hyperacidity, are often the cause of tachycardia.

The subject is interesting because such cases are not extremely uncommon and are likely to present themselves to any physician in the daily round of his visits. The attacks are alarming to the patient and his friends, and it behooves the physician to study well what is known of this condition of the circulation lest the situation be rendered serious by the presence of a guide who does not know the way.

MINOR PARAGRAPHS.

AUTOCHTHONOUS POISONING.

Dr. Vaughn Harley, in the *British Medical Journal*, reports two fatal cases of an unusual form of nerve disturbance associated with dark-red urine, which he thinks were probably due to defective tissue oxidation. The abnormal condition was characterized by grave nervous symptoms. There was total or partial insomnia, with diminution of the reflexes and decided muscular prostration. Coma and death ensued. The symptoms were associated with ischuria, and the urine contained abnormal coloring substances related to the chromogen group. Autopsies could not be obtained, but the author thinks that, taking into consideration the previous good health of the patients and the absence of all physical signs, the symptoms resembled those of self-poisoning. A very careful analysis of the urine was made in both cases, disclosing a decided chemical alteration in the coloring matter of a character that pointed to a faulty oxidation of some of the substances which originate in the body. As to the cause of this defective oxidation, no scientific explanation can as yet be given. In this same line of study Dr. A. Pulawski, in the *Gazette hebdomadaire de médecine et de chirurgie*, gives the details of an interesting case of recurring paralysis of the four extremities observed in his hospital service. The patient, a young man twenty-one years of age, was brought to the hospital with paralysis of the four extremities which had come on during the previous night. He reported that this was the fourth attack of the kind from which he had suffered, the previous ones having been of short duration, and said that each time he had fully recovered. The family and personal history was negative. Objective examination showed the young man to be robust, with a good muscular development. The pulse and temperature were normal. Movements of the superior extremities were performed with great difficulty, and the grasp was very feeble. Voluntary movements of the inferior extremities were entirely abolished. The sphincters were not involved. Only lateral movements of the head were possible, as the muscles controlling backward and forward movements seemed to be in a state of relaxation. The respirations were superficial, but it was possible for a deep inspiration to be taken. Speech was normal. Cutaneous and muscular sensibility were intact. The reflexes were found to be completely abolished. Reaction to the faradaic current was feeble. The pupillary reaction was normal. This condition of the patient had continued for eighteen hours, and then had gradually disappeared. As some of the symptoms seemed to point to hysteria, the author had tried hypnotism, but had failed to produce any effect on the patient. He was inclined to look upon the symptoms as arising from self-intoxication from some unknown cause, for careful inquiry had failed to disclose any external conditions that might have produced the unusual phenomena.

APROSEXIA IN CHILDREN.

The term aprosexia has been revived by Dr. Guye, of Amsterdam, who was one of the first to call attention to this peculiar class of cases. The word ἀπροσεξία was interpreted by Hesychius, the Greek lexicographer, to mean *heedlessness*—the impairment of the faculties of attention and observation seen in certain children. Mr. Shaw, in the *Practitioner*, reports investigations of considerable interest on this subject. He observed that many children with the onset of slight deafness retrograded to a marked degree in mental capacity. This deafness was frequently too slight to wholly account for the mental change. It was found that there was almost invariably present hypertrophy of the lymphoid tissue of the pharynx and of that near the orifice of the Eustachian tube, a condition commonly known as "adenoids." Removal of this tissue resulted in improvement of the hearing and at the same time in a far greater improvement in the mental condition. Aside from the deafness, the symptoms are usually not sufficiently marked to cause the parents to seek medical aid. The child is a mouth-breather, is inclined to snore at night, has headaches while at its lessons, has a sleepy and vacant expression, and lacks mental acuteness. Guye believes that the mental improvement is due to the relief of congestion of the intracranial venous and lymphatic systems, resulting from removal of the adenoid growths. It is well known that the intracranial veins and sinuses communicate with those of the naso-pharynx. It has also been demonstrated that the intracranial lymphatics are in direct communication with the naso-pharyngeal lymphatics which pass to this lymphoid tissue. Lewis, of Wakefield, has recently demonstrated the existence of an intracerebral lymph-connective system in the cortex of the brain. There is, therefore, good ground for assuming a connection between these growths in the naso-pharyngeal region and the changes in mental capacity.

THE PNEUMONIC FORM OF TUBERCULOSIS.

This most interesting manifestation of tuberculosis as it sometimes appears in children is discussed by Hutinel in a recent issue of the *Journal de médecine et de chirurgie.* Tubercular lesions are more frequently disseminated in children than in adults, and are rarely confined to the apices of the lungs. Of several cases reported, one was in an infant with a strong hereditary tendency to tuberculosis. Eight days after the onset of slight feverish symptoms, evidences of bronchitis appeared, and a pneumonic consolidation was soon detected. This failed to resolve, the fever continued, and the child died with meningeal symptoms. In another case consolidation appeared at both apices. The fever was high and persisted long after it should have subsided had the pneumonia been simple. It is not uncommon for the disease to assume at the outset the characteristics of a simple pneumonia, a fact which should be remembered in making a prognosis. Tuberculosis should be suspected in every croupous pneumonia in a child that does not yield by the eighth day. Fluctuations in temperature, hyperæsthesia, or the appearance of joint lesions, orchitis, or meningeal symptoms will confirm the diagnosis.

THE TRANSPLANTATION AND GROWTH OF MAMMALIAN OVA WITHIN A UTERINE FOSTER-MOTHER.

In the *Proceedings of the Royal Society*, published January 17, 1891, there is a very interesting account of some experiments made by Mr. Walter Heape, showing that it is possible to make use of the uterus of one variety of rabbit as a medium for the growth and complete fœtal development of fertilized ova of another variety of rabbit. Two ova, just undergoing segmentation, were obtained from an Angora doe rabbit that had been fertilized by an Angora buck thirty-two hours previously. These were immediately transferred into the upper end of the Falloppian tube of a Belgian hare doe that had been fertilized three hours before by a buck of that breed. She was a seven-months-old virgin doe, and in due course of time after the covering gave birth to six young; four of these resembled herself and her mate, while two showed undoubted Angora characteristics in the long, silky hair peculiar to that breed, in being albinos, and in a habit, also peculiar to Angoras, of slowly swaying their head from side to side as they look at a person. All the young at birth had some skin disease that disappeared under treatment, and one of the Angora young was scantily supplied with hair. Both the Angora young were bigger and stronger when born than the others, three of the Belgian hare young dying when they were some three months old. Each variety seemed to be *sui generis.* These experiments were undertaken to determine whether a uterine foster-mother would have any influence upon the foster-children, and whether the presence and development of foreign ova in the uterus of a mother would affect the contemporary offspring of that mother.

THE MICROBE OF EPIDEMIC CEREBRO-SPINAL MENINGITIS.

The recent outbreak of this disease near Padua, says the *Lancet* for January 24th, has given Dr. Bonome an opportunity of making careful investigations as to its ætiology and pathology. His conclusions, together with an account of his experiments, are published in Ziegler's *Beiträge zur pathologische Anatomie und zur allgemeine Pathologie.* From examinations of the bodies of five patients who had died from the disease, the meningeal exudations from a sixth, and the blood and catarrhal secretions from several others, the author succeeded in isolating a streptococcus, which did not, however, grow readily on artificial media. This streptococcus differs from the pneumococcus and meningococcus in the ball-shaped appearance of the colonies on agar-agar plate cultivations, in its inability to grow in blood serum, and in the difficulty which is experienced in carrying the cultivations through five or six generations. It is distinguished from the streptococcus of erysipelas by its action on animals and by its failure to grow on gelatin and in blood serum. In contrast with other micro-organisms that are morphological analogues, many differences may be made out.

MENTHOL IN THE TREATMENT OF THE VOMITING OF PREGNANCY.

The *British Medical Journal* refers to articles by Henske and Gottschalk regarding the efficacious properties of menthol in cases of the incoercible vomiting of pregnancy. A mixture containing fifteen grains of the drug in five ounces of water and five drachms of rectified spirit was used, a tablespoonful being the dose given hourly until the emesis had been checked. The editor of the *Archives of Gynæcology* is quoted as having made a satisfactory trial of the remedy. The vomiting ceased after the fourth dose. Dr. Gottschalk reports two cases with similar results.

SKIN FLAPS IN THE FORMATION OF A NEW PHARYNX.

Dr. Kr. Poulsen has been successful in forming a new pharynx by means of skin flaps in a case where he performed total extirpation of the larynx and the connected pharyngeal structures for cancer blocking up the laryngo-pharyngeal cavity and infiltrating the laryngeal tissues. The patient lived seven weeks after the operation, and then died of septic pneumonia. The operation itself must be considered successful, as healing had gone on in a normal way and the patient was able to swallow and take nourishment, and to go about until the fatal illness. The author is satisfied of the feasibility of such an operation, though his was an unfavorable case on account of the patient's previous bad general condition. The details of the operation are to be found in the *Centralblatt für Chirurgie* for January 3d.

A NEEDLE THAT TRAVELED FROM THE BUTTOCKS TO THE PYLORIC REGION.

In the *British Medical Journal* for January 10th, Mr. W. T. Thomson reports a case in which a needle entered the right buttock of a man thirty-six years old. The part was poulticed and it was believed that the needle had come away, as no subsequent discomfort was experienced. When forty-five years old, the man had cough, expectoration, and other symptoms of pulmonary trouble that persisted for several months; but, a year after recovering, he had symptoms of hepatic disease that continued for a few weeks. In his fiftieth year he had pain in the pyloric region, and under cocaine anæsthesia a rusty needle was removed from the right half of the rectus abdominis. Apparently the needle had traversed the right gluteal and lumbar regions, penetrated the right lung, passed through the diaphragm, traversed the upper surface of the liver, and finally entered the rectus muscle.

ITEMS, ETC.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported during the two weeks ending February 24, 1891:

DISEASES.	Week ending Feb. 17.		Week ending Feb. 24.	
	Cases.	Deaths.	Cases.	Deaths.
Typhoid fever	13	3	9	2
Scarlet fever	183	18	158	23
Cerebro-spinal meningitis	2	2	1	1
Measles	474	17	365	19
Diphtheria	109	32	107	35
Small-pox	0	0	2	0
Varicella	5	0	15	0
Rotheln	1	0	0	0
Whooping-cough	0	0	5	0

The Prevention of Narcotic Inebriety.—At a meeting of the American Association for the Cure of Inebriety, held on February 18th, at the Academy of Medicine, New York, Dr. J. B. Mattison, of Brooklyn, offered the following preamble and resolutions:

Whereas, a leading cause of morphinism, chloralism, and cocainism is the facility with which morphine, chloral, and cocaine can be procured from pharmacists; and

Whereas, the refilling of prescriptions containing these drugs is a potent factor in the rise and growth of these diseases;

Therefore, be it *resolved*, as the sense of this association, that no retail druggist should sell morphine, chloral, or cocaine except on a physician's prescription. That no prescription containing morphine, chloral, or cocaine should be refilled except on the written order of a physician. These were unanimously adopted, and a committee, consisting of Dr. Mattison, Dr. Crothers, and Dr. Wright, was appointed to secure legislation in accordance with the resolutions.

Liebreich's Remedy for Consumption.—It is announced that, at a recent meeting of the Berlin Medical Society, Professor Liebreich described his new method of treating tuberculous disease by means of subcutaneous injections of the potassium salt of cantharidic acid, and that Dr. Fraenkel and Dr. Hermann contributed the results of clinical experiments tending to show the efficacy of the treatment.

The New England Medical Monthly.—On Wednesday of this week, the publication office of the *New England Medical Monthly*, in Danbury, Conn., was practically destroyed by fire, together with a large portion of the March edition of the journal in sheets. The editor, Dr. William C. Wile, whose loss is said to be $8,000, will meet with the sympathy of the profession in general, as well as the indulgence of his subscribers.

The Harvard Medical Society of New York.—Last week we announced the organization of this new society. At the next meeting, on Saturday evening, March 7th, Dr. H. C. Coe will read a paper on Diagnosis by Exclusion.

The Albany Medical Annals.—This excellent monthly journal is now edited by Dr. W. G. Macdonald, the committee of publication having retired, also the recent managing editor, Dr. Lorenzo Hale, upon whom, says Dr. Macdonald, most of the editorial work has hitherto fallen.

The Death of Dr. Henry W. Stevens, of Brooklyn, took place on the 22d inst. under unusually painful circumstances. About a month before, he had taken part in the post-mortem examination of the body of a man who had died of rabies. At the time, he had a sore on one of his fingers, and shortly afterward he took the precaution of undergoing a course of the Pasteur treatment. Unfortunately, paralytic phenomena soon made their appearance. The deceased, who was thirty-three years old, was a graduate of the College of Physicians and Surgeons, and had recently been appointed assistant pathologist at the New York Hospital, in which institution he had formerly served with credit on the house staff. By his death a most promising young physician has been sacrificed to professional duty.

Army Intelligence.—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from February 8 to February 20, 1891:*

Maus, Louis M., Captain and Assistant Surgeon, is, by direction of the Secretary of War, relieved from further duty at Fort Stanton, New Mexico, and will report in person to the commanding officer, Whipple Barracks, Arizona, for duty at that station, relieving Captain Richard W. Johnson, Assistant Surgeon. Captain Johnson, on being relieved by Captain Maus, Assistant Surgeon, will report in person to the commanding officer, San Carlos, Arizona Territory, for duty at that station. Par. 7, S. O. 35, A. G. O., Washington, D. C., February 12, 1891.

Wolverton, William D., Major and Surgeon, is granted leave of absence for one month, to take effect on or about February 15, 1891. Par. 2, S. O. 15, Department of the Platte, Omaha, Nebraska, February 7, 1891.

Merrill, James C., Captain and Assistant Surgeon, is, by direction of the Secretary of War, relieved from duty at Fort Reno, Oklahoma Territory, and will report in person at the earliest practicable date to the Surgeon-General in this city for duty in his office. Par. 5, S. O. 29, A. G. O., Washington, D. C., February 5, 1891.

Johnson, R. W., Assistant Surgeon, is granted leave of absence for one month, to take effect on or about February 10, 1891. Par. 1, S. O. 16, Department of Arizona, Los Angeles, California, February 4, 1891.

Byrne, Charles C., Lieutenant-Colonel and Surgeon, is, by direction of the Secretary of War, relieved from duty at Fort Sam Houston, Texas, and will report in person to the commanding general, Department of the Columbia, for duty as Medical Director of that Department, relieving Colonel Bernard J. D. Irwin, Surgeon. Colonel Irwin, on being relieved by Lieutenant-Colonel Byrne, will proceed, *via* San Francisco, Cal., to St. Louis, Missouri, and report in person to the commanding general, Department of the Missouri, for duty as Medical Director of that Department, relieving Colonel Charles Page, Assistant Surgeon-General. Colonel Page, on being relieved by Colonel Irwin, will report in person to the commanding general, Division of the Atlantic, for duty as Medical Director of that Division. Par. 6, S. O. 36, A. G. O., Washington, D. C., February 13, 1891.

Naval Intelligence.—*Official List of Changes in the Medical Corps of the United States Navy for the week ending February 14, 1891:*

Anzal, E. W., Passed Assistant Surgeon. Detached from U. S. Steamer Boston, and ordered to U. S. Steamer Lancaster.

Craig, T. C., Passed Assistant Surgeon. Detached from U. S. Steamer Vesuvius, and ordered to U. S. Steamer Boston.

Braisted, W. C., Assistant Surgeon. Detached from Hospital, Hot Springs, and ordered to the U. S. Steamer Vesuvius.

Fitts, H. B., Passed Assistant Surgeon. Ordered to the Army and Navy Hospital, Hot Springs.

Arnold, W. F., Assistant Surgeon. Ordered to the U. S. Receiving-ship Vermont.

Blackwood, N. J., Assistant Surgeon. Detached from the U. S. Steamer Vermont, and ordered to the Newark.

Ashbridge, Richard, Passed Assistant Surgeon. Ordered to the Navy Yard, New York.

North, J. H., Assistant Surgeon. Detached from Navy Yard, New York, and ordered to the U. S. Steamer Lancaster.

Society Meetings for the Coming Week:

Monday, *March 2d:* New York Academy of Sciences (Section in Biology); German Medical Society of the City of New York; Morrisania Medical Society (private); Brooklyn Anatomical and Surgical Society (private); Utica, N. Y., Medical Library Association; Boston Society for Medical Observation; St. Albans, Vt., Medical Association; Providence, R. I., Medical Association (annual); Hartford, Conn., City Medical Association; Chicago Medical Society.

Tuesday, *March 3d:* New York Obstetrical Society (private); New York Neurological Society; Elmira, N. Y., Academy of Medicine; Buffalo Medical and Surgical Association; Essex, Mass., South District Medical Society (annual—Salem); Hudson, N. J., County Medical Society (Jersey City); Androscoggin, Me., County Medical Association (Lewiston); Baltimore Academy of Medicine.

Wednesday, *March 4th:* Metropolitan Medical Society (private); Society of the Alumni of Bellevue Hospital; Harlem Medical Association of the City of New York; Medical Microscopical Society of Brooklyn; Medical Society of the County of Richmond (Stapleton); Penobscot, Me., County Medical Society (Bangor).

Thursday, *March 5th:* New York Academy of Medicine; Brooklyn Surgical Society; Society of Physicians of the Village of Canandaigua; Boston Medico-psychological Association; United States Naval Medical Society (Washington); Obstetrical Society of Philadelphia.

Friday, *March 6th:* Practitioners' Society of New York (private); Baltimore Clinical Society.

Saturday, *March 7th:* Clinical Society of the New York Post-graduate Medical School and Hospital; Manhattan Medical and Surgical Society (private); Harvard Medical Society of New York; Miller's River, Mass., Medical Society.

Answers to Correspondents:

No. 346.—We know of no medical college in Madrid except the medical school of the University of Madrid.

No. 347.—1. The medical practice law of New Jersey and that of New York are not identical, but their general purport is about the same. 2. The New York law does not require registered practitioners to appear before an examining board. 3. A license issued in one State does not confer the right to practice in another State having a medical practice law.

No. 348.—The secretary of the faculty of the London Post-graduate Course is Mr. J. Fletcher Little, M. B., 60 Welbeck Street, London, W.

Proceedings of Societies.

MEDICO-CHIRURGICAL SOCIETY OF MONTREAL.

Meeting of February 6, 1891.

The President, Dr. F. J. Shepherd, in the Chair.

Hæmatoma of the Ovary.—Dr. Alloway exhibited two specimens of hæmatoma of the ovary. Although little was written upon the subject, the condition could not be uncommon, because he had already shown to the society three specimens. The symptoms produced were identical with those of hyperæmia and inflammation of the ovaries. Nothing serious occurred unless the blood cyst should rupture into the abdominal cavity.

Follicular hæmorrhage was a frequent cause of intraperitoneal hæmatocele, which might terminate fatally, either at once or from subsequent peritonitis. The changes through which the blood cysts passed were well illustrated in the specimens now before the society. The patients from whom the specimens had been taken were between the ages of twenty-five and thirty. Two of them were married. All three had been chronic invalids. In the first case improvement had been most marked, in the two other cases the operation had been performed but recently.

Contortion of the Falloppian Tubes.—Dr. Alloway also exhibited a specimen of contortion of the Falloppian tubes, and explained that the condition consisted of a twisting or bending of the tube upon itself irrespective of inflammatory adhesions. Dr. Haultain, of Edinburgh, had recently drawn attention to this condition, saying that it was the most frequently met with morbid condition of the tubes. It was a cause of very distressing symptoms, sterility, and dysmenorrhœa. The origin of this condition was probably developmental.

Aneurysm of the Aorta simulating Aneurysm of the Innominate.—Dr. R. L. MacDonnell related the history of the case, which was briefly as follows: W. H., aged thirty-three, colored barber; no history of syphilis or of intemperance. About two years ago he had begun to suffer from severe pain in the right side of the neck and behind the right ear, subsequently from pain in the upper axillary region of the right chest, and afterward from pains in the shoulder. These had been regarded as rheumatism, neuralgia, and pleurisy, until he had come under the notice of Dr. John A. Macdonald, who had immediately sent him to the Montreal General Hospital. On his admission, in October last, there was an evident pulsating tumor over the situation of the innominate artery. The bulging of the chest was barely perceptible, but there was dullness on percussion over an area of two inches and a half in diameter, occupying the space between the clavicle and the sternum. The blood supply to the right arm and to the right side of the head was completely cut off, there being at this time no pulse in the radial, brachial, the carotid, or the temporal arteries. Tracheal stridor was present, but the breath sounds in one lung in no way differed from those in the other. No tracheal tugging. No laryngeal paralysis. The condition diagnosticated was aneurysm of considerable size involving the innominate artery, and possibly the ascending arch. The absence of tracheal tugging, of laryngeal paralysis, and of weak breathing at the left pulmonary base had rendered an involvement of the transverse arch highly improbable. No symptoms pointed to the third part of the arch or the thoracic aorta.

Tracheal tugging, the speaker stated, was, according to his experience, only met with when the transverse arch was enlarged just as it rested on the left bronchus, and against the angle which that tube formed with the trachea. When the aneurysm was in this position the three physical signs—tugging, paralysis of muscles of the left side of the larynx, and weak breathing at the left pulmonary base—would be present together. The results of the autopsy in this case showed that direct pressure on the trachea would not produce tugging. When the aneurysm occupied a point on the transverse arch beyond the crossing of the left bronchus, laryngeal paralysis and weak breathing in the left base would be present, but no tugging. The tumor dragged down the loop formed by the vagus and the left recurrent nerves, which bent around the aorta behind the root of the left lung, and also produced pressure upon the left bronchus from behind. In this manner the laryngeal paralysis was produced as well as the weakened breathing in the left pulmonary base. But, inasmuch as the pressure on the left bronchus was from behind and not from above, there was no downward pull upon the trachea, and consequently tracheal tugging was absent. In a case which the speaker had brought before the society a year ago, the aneurysm had been situated beyond the left bronchus, but had pressed upon it from behind. Laryngeal paralysis and weakened breathing at the left base had both been present, but there had been no tracheal tugging.

On such grounds the diagnosis of the locality of the aneurysm was made. Six weeks in bed with the administration of thirty grains of iodide of potassium per day had seemed to be of benefit, and he had left the hospital on December 6th feeling much better, being almost free from pain. The tumor apparently did not increase in size during his stay in hospital. Up to a fortnight ago he did well, but at about this time the tumor had begun to grow very rapidly and he was readmitted. The tumor was now projecting from the chest wall, forming a bulging as large as half a cricket ball. The tumor had thin walls and was pulsatile. The pulse in the right wrist was now present though small. Dyspnœa was urgent and death had taken place in six days. The rapid enlargement of the tumor in the direction of the front of the chest relieved in a slight degree the pressure upon the innominate and allowed blood again to flow through the vessels.

Dr. Wyatt Johnston exhibited the specimen. The sac was situated at the junction of the first and second part of the arch of the aorta. The innominate artery arose from just within the sac, while another sac lay in direct contact with the innominate all the way to its bifurcation and was closely bound to it by connective tissue. The sac was as large as two fists, and had eroded the first and second ribs in the right supraclavicular region. The anterior wall of the sac was formed by the pectoralis major, and it contained a large amount of fibrin not very firm. The great arteries and veins were free. The sac lay in front of the trachea and pressed upon the right bronchus. The left bronchus was quite free of the tumor. The recurrent laryngeals were normal. There was intense tracheitis, with an ulcer in the anterior wall of the trachea an inch and a half above its bifurcation. There was an acute broncho-pneumonia of the right lung.

Dr. George Ross regarded the case as being most interesting, but it was not in his experience a very unusual thing to find innominate aneurysm closely resembling in its symptoms and physical signs aneurysm of the arch, or *vice versa*, and he had already reported a case closely resembling that brought before the society by Dr. MacDonnell. A correct diagnosis was impossible under the circumstances of this case. The points brought forward with regard to tracheal tugging were interesting, though he was not prepared entirely to agree with the opinions expressed. He was under the impression that tracheal tugging could be produced by aneurysm pressing upon the trachea from in front and exerting pressure downward as well as backward. He must confess, however, that the result of the autopsy in the case now before the society strongly supported Dr. MacDonnell's view of the causation of this physical sign and the aid it could afford toward the localization of the tumor. In the present state of our knowledge relating to the localization of thoracic aneurysms, surgical interference with innominate aneurysms would be always extremely hazardous. It was very desirable that all cases presenting themselves in which it was difficult to determine whether a given aneurysm was innominate or aortic should be most carefully examined and reported so that some points might be determined by which the diagnosis might be established.

Dr. James Bell was interested in the case, inasmuch as the patient had originally been sent to his wards for surgical treatment. Ligature of the carotid and subclavian arteries had suggested itself, but an examination had revealed the fact that these arteries were already occluded. The absence of syphilis in the history and of any atheromatous change in the vessels, together with the comparative youth of the patient, were remarkable. He spoke of the cases recently reported by Macewen, where the formation of white clot was artificially produced by pricking the sac through and irritating its inner surface by fine needles. Encouraging results had followed this treatment in the four cases reported by Macewen, in two of which the results were verified by subsequent post-mortem examination.

Round Ulcer of the Stomach causing Fatal Perforation. —Dr. Wyatt Johnston exhibited a stomach, near the pylorus of which there was an ulcer with highly raised edges and a perforation at its base. It had formerly been adherent to the peritonæum in the neighborhood, and the recent perforation was the result of the breaking down of this connection. A small cicatrix of another ulcer existed on the anterior wall. The whole circumference of the stomach at the pylorus was much infiltrated with cicatricial tissue. The stomach was moderately dilated.

The clinical history of the case was related by Dr. R. L. MacDonnell: The patient, an unmarried woman, aged fifty, had been taken suddenly ill some days before, and in a few minutes was in a condition of collapse. There was very severe pain at the epigastrium and copious vomiting of a coffee-colored fluid. At the autopsy, when the abdomen was opened the ulcer was plainly visible in the right half of the epigastric region, and it presented a decidedly punched-out appearance. There was present in the peritonæum about a pint of "coffee-ground" fluid, presenting the same character as that which had been vomited. There were evidences of general peritonitis.

This patient had been under his care in the Montreal General Hospital up to about ten days before her death. Her case was very interesting as illustrating several points in the history of gastric ulcer, more particularly the duration of the symptoms and the want of correspondence between the advance of disease and the severity of symptoms.

The patient, who had been a needle-woman, had begun to suffer from pain and distress after food, with occasional attacks of vomiting, some twenty years ago. She had been supposed to have dyspepsia up to the year 1877, when she had come under the care of Dr. G. E. Fenwick, who had discovered blood in the vomited matter in the form of a coffee-ground material. When this was shown to her, she had been horrified to find that it was blood, for she had been vomiting it for years before. At this period, there being severe pain in the epigastrium, vomiting after food, and vomiting of blood in large quantity, she had entered the General Hospital, and had been under treatment for gastric ulcer for some six weeks, deriving much benefit from the treatment; and from 1877 to 1888 she had had no severe symptoms, and, though she had suffered from pain in the epigastrium at times, yet the vomiting and the hæmatemesis were not present. In 1888 symptoms of gastric ulcer had again presented themselves, and she had again been treated in hospital, but there had been no hæmatemesis present. In the present year she had suffered from pain and vomiting after food, and shortly after the New Year was again admitted. There was considerable emaciation, but it had not occurred recently, and she said that she had always been thin. The abdomen was very flat and its walls extremely thin, so that the lumbar vertebræ and the abdominal aorta could most plainly be felt. The epigastrium was moderately tender, but no more in one place than in another. No tumor was perceptible. She was kept in bed several days and the behavior of the stomach carefully watched. Milk diet was ordered. During the day gastric distress had increased until at evening vomiting gave relief. The amount brought up was large—usually a pint or more. It was thought that the symptoms pointed to cicatrized ulceration in the neighborhood, which was probably delaying the advance of food through the stomach. A soft stomach-tube was therefore introduced every day at 4 P. M., and a pint of water slowly passed through it. The result was satisfactory, the discomfort was relieved, no vomiting occurred, and she was able to sleep without epigastric discomfort or pain. At the time of her leaving hospital she was quite free from pain, and was able to take most of the common articles of diet without any discomfort. On return home she ate freely of what was going, and went out walking on several occasions. After death, fragments of undigested potato were found in the stomach.

The absence of local tenderness at the epigastrium was remarkable, for the ulcer was situated just under the attenuated abdominal wall, which in the epigastric region could hardly have been more than a quarter of an inch thick. Possibly during life it might not have occupied this position.

Obstruction of the Cystic Duct; Cancer (?) of the Gall-bladder.—Dr. Johnston exhibited for Dr. W. A. Molson a large calculus of the size of a pigeon's egg in the cystic duct two inches above the junction with the common duct. A smal calculus of the size of a bean lay just at the orifice of the common duct. Surrounding the gall-bladder was a rough, fibrous mass as large as an apple. Examination of this tissue under the microscope showed a dense fibrous stroma in which a large number of small lymphoid cells were found. The microscopic appearance of the growth was not that of cancer. Dr. Molson stated that the patient was a stout female aged sixty-four, fairly well nourished. There was a history of frequent vomiting, which had become almost incessant for about two months before her death. No pain, no jaundice, no physical signs of disease, and no history of renal colic.

Diabetic Coma.—Dr. I. A. Hutchison reported a case of diabetes fatal by coma, which he had lately had under observation. A man aged fifty had been brought home from work in the morning of November 13th in an exhausted condition. When seen by the speaker he had complained of loss of appetite and of constipation. On the following day there was drowsiness and stupor. The case appeared now like one of uræmic intoxication. Previous health had always been good. No syphilis. For twelve years he had been passing an abnormally large amount of urine. Latterly there had been polyuria, thirst, loss of appetite, and emaciation. The quantity of urine now passed daily was four or five quarts. Specific gravity, 1·032. Sugar present. On the fourth day of the illness the patient had become dropsical, breathing stertorous. Pulse faint. Coma increased, and death had occurred that evening. The urine had been examined in the chemical laboratory of McGill College by Dr. Ruttan, and had been found to be free from acetone.

Cystic Degeneration of the Placenta.—Dr. O'Connor exhibited this specimen, which showed extensive mucoid change as well as enlargement of the villi of the chorion. He had been hurriedly called to the patient, who was reported to be in the sixth month of pregnancy. The os was partially dilated, the placenta presenting, and there was considerable bleeding. The os was dilated and the mass removed. The uterus contracted firmly and the severe hæmorrhage ceased.

NEW YORK SURGICAL SOCIETY.

Meeting of December 10, 1890.

The President, Dr. Charles K. Briddon, in the Chair.

Epithelioma.—Dr. B. F. Curtis presented a patient fifty years of age upon whom he had done an operation for the removal of an epithelioma of the floor of the mouth ten months previously. By a curved incision under the chin the submaxillary glands were dissected out, nearly all the anterior muscles of the tongue were removed, and the entire mucous membrane of the floor of the mouth was excised. The tongue was then spread out to form a new floor, the tip being secured to the bone in front just above the skin flap, and the edges were sewed to the edges of the skin flap on each side, as was done with the mucous membrane of the mouth after extirpation of the tongue. The point of interest about the case was the restoration of movements which had taken place in the tongue after it had thus been flattened out, the tip now being quite free and the patient able to articulate distinctly. Unfortunately, there had been recurrence in the bone and in the glands of the neck, requiring another operation.

Nitrogen Monoxide in Minor Surgical Operations.—This was the title of a paper by Dr. W. W. Van Arsdale. (To be published.)

Dr. Curtis reported the results of some special experiments with this anæsthetic on animals, and exhibited a number of sphygmograph tracings showing the action of the agent upon the circulation. The experiments had been too few to be conclusive.

Dr. J. A. Wyeth said that he had found the gas useful in cases where it was desirable to perform passive motion upon joints which were threatened with immobility.

Appendicitis.—Dr. F. Lange said he had upon several occasions taken the opportunity to remark that in cases of appendicitis of short duration there existed a seeming disproportion between the length of time that the clinical symptoms were observable and the great disorganization found in the tissues of the appendix. He then presented an appendix that he had removed from a boy, fourteen years of age, exactly thirty hours after the onset of the first symptoms. The patient was entirely well on the previous Friday. He was also but little indisposed on the following day; had some pain and a moderate rise of temperature, but a good pulse. On Sunday morning, twenty-four hours after the initial symptoms, the patient's condition was materially worse. When the speaker saw him in consultation, on the evening of that day, he had a temperature of 105·5° F., and, although he was entirely conscious and comparatively comfortable, there was that great acceleration of pulse and respiration, without much tympanites or pain, indicative of profound sepsis, which the speaker had come to look upon as of bad augury. An operation was performed, although, in the speaker's opinion, little was to be hoped from it. The abdominal cavity was found to contain a quantity of very offensive-smelling, ichorous pus. The appendix was found to be partly gangrenous and to have a perforation at about its middle, with a fæcal concretion. The boy had died about seven or eight hours after the operation. These were the cases which prompted the idea that it was better always to do an early operation. It was, however, a question whether the cases would ever come to surgeons early enough to give them a chance against such intense septic invasion. If the abdominal cavity had already come in contact with such highly septic virus, any attempt at mechanical removal or chemical destruction by means of local disinfection alone would probably not be efficient. Perhaps the time would come when, by the simultaneous administration of a toxic antidote, such poisoning could be prevented.

Most of the patients with appendicitis would recover, any way, under the expectant plan of former times, with delayed operation; still there was always a minority that would require prompt treatment. If, as in the case he had described, there was found after only thirty-six hours such destruction of tissues, it might be assumed that a pronounced morbid condition had antedated the onset of the clinical symptoms—some ulcerative process or the formation of abscess around the appendix, and the subsequent bursting of that abscess. He had seen three illustrative cases, with different issue, within the last two weeks. In one case, that of a boy of thirteen, there had been every clinical evidence pointing to the existence of circumscribed peritonitis in the region of the appendix; this was on the sixth day of the illness, and an abscess was assumed to be present. An operation was decided upon for the following morning. When everything was prepared, notice had come that the boy's temperature was normal, though before it had varied between 101° and 104°, with one chill, and this patient had since remained well. Of course, it was a question as to what the real pathological condition within and around the appendix had been. It must be assumed that there was an accumulation within the organ, which had suddenly found its outlet into the cæcum. In another of the cases there had undoubtedly existed for several weeks, without noticeable fever, an extensive abscess, posterior to the ascending colon, and extending laterally; perhaps it was one of those cases in which the appendix was reflected behind the caput coli. The patient was successfully operated upon by Dr. Wackerhagen, of Brooklyn, with whom the speaker had consulted. The symptom of pain in these cases was not limited to just that area that was now known as McBurney's point, but corresponded to the seat of inflammation, with its differing localization. In the great majority of cases of limited inflammation it corresponded to McBurney's point.

Amputation of the Left Upper Extremity.—Dr. Wyeth reported his recent amputation of the entire left upper extremity, together with the outer half of the pectoralis major, the pectoralis minor, the subclavius, all the muscles of the scapula, a portion of the serratus magnus, and the entire clavicle and scapula, with recovery. (See page 57.)

MEDICAL SOCIETY OF THE STATE OF NEW YORK.

Eighty-fifth Annual Meeting, held in Albany on Tuesday, Wednesday, and Thursday, February 3, 4, and 5, 1891.

The President, Dr. William Warren Potter, of Buffalo, in the Chair.

(Concluded from page 195.)

The Treatment of Posterior Uterine Displacements by Utero-vaginal Ligature.—Dr. H. J. Boldt, of New York, spoke on the employment of this method for conditions when the displacement rendered operative interference necessary and the uterus was perfectly mobile, or when the uterus would remain anteposed only while a pessary was worn and the patient desired something done by which she could subsequently dispense with the supporter.

The objections raised as to possible injury of the bladder or intestines could, in the speaker's opinion, be overcome by observance of proper technique, the uterus being pulled down as far as possible toward the left side and the body being pushed to the right, the bladder to the left, by a sound in the hands of an assistant; this would avert injury of the bladder. The slightly bloody tingeing of the urine observed occasionally he considered due to injury by the sound used in the bladder and not to the needle.

Injury of intestines could only occur if these were adherent to the anterior surface of the uterus, and this could be determined by bimanual examination. Non-adherent intestines would gravitate toward the diaphragm as soon as the patient was placed in Trendelenburg's posture; then, the uterus being thoroughly anteflexed, there was not the slightest danger.

The speaker recognized the fact that a simple posterior displacement produced only mechanical symptoms, but, owing to the malposition, other pathological conditions were caused. The operation was of course contra-indicated in coexisting disease of the appendages or if the uterus was fixed, unless the adhesions could first be readily broken up by either Schultze's or Brandt's method. To insure success, the ligature must be left in about two months; and also a pessary, which should be inserted immediately after operation, should be worn for a few months.

Of one hundred and forty-one cases known to the speaker to have been operated upon, not one serious accident had occurred. Of his own nine cases he had recorded two failures, owing, he thought, to the omission of a pessary after the operation.

Another objection—that of the probability of a woman not conceiving or of aborting, owing to the anteflexed position of the uterus—had also been overthrown by two cases in Dr. Schücking's practice, and one in Thieme's practice. All three women had gone to term and had a normal delivery, and their uteri had subsequently remained anterior. The adhesion holding the uterus anteposed would take place in the lower part of the vesico-uterine space. The operation was especially indicated in those cases of retroflexion where the body of the uterus would invariably tip over the upper bar of the supporter. A strict observance of asepsis was of course necessary.

Dr. A. F. Currier thought that Schücking's operation was not likely to obtain in general practice. It was opposed to good surgical principles in that it substituted one anatomical abnormity for another. Then the operation was done under conditions which left grave doubt as to what the result might be. He thought that plain open surgery, freed as it now was from much risk, was to be preferred. There certainly did exist in this operation, as detailed by Dr. Boldt, elements of danger from sepsis, from injury of the intestines or bladder, and from the sutures, which had to remain in position so long as to render their cutting through the tissues extremely probable.

Dr. W. Gill Wylie said he did not believe that this operation would ever be of much practical use. He regarded it as dangerous and its successful performance rather as an exemplification of what risks might be run in these days of clever surgery with strict cleanliness. He thought that where everything was loose and free from adhesion, and the displacement was such as to call for something to be attempted for its relief, there was nothing better than the Alexander operation. Where the cases were selected as being without perimetric inflammations, the operation was practically free from danger.

Dr. Boldt said that he had expected just such criticism, but thought that one hundred and forty-one cases without mishap, and a resulting cure in a majority of them, constituted a powerful argument in favor o the method.

The Treatment of Injuries to the Floor of the Vagina.—This was the title of a paper by Dr. H. T. Hanks, of New York. He stated that no deep laceration could occur without destroying the integrity of those fibers of the levator ani which passed and met above the rectum, and that when they gave way the transversus perinæi encouraged a still further gaping of these lateral fibers. The obstetrician should try to avert the accident, but when it did occur he ought to proceed to repair the injury within four hours. To do this he should place the patient on the edge of the bed, or on a table, before a good light, choosing the lithotomy posture. With the finger in the rectum, so as to judge of the severity of the injury, a needle was then to be passed down to the right and left of the rectum far enough to catch the fibers of the levator ani muscle. Most of the modern methods of performing these repairs were not successful for the reason that they were simply skin operations, which failed to include the muscles.

The Chronic Sequences of Cerebral Hæmorrhage.—Dr. J. LEONARD CORNING, of New York, read a paper with this title. The most obvious and important consequences of a hæmorrhage into the cerebral substance were, he said, the paralyses. These involved the muscles of one half of the body, those of the limbs and of one half of the face and tongue, and to some extent the muscles of one eye. This was the usual condition, the paralysis being unilateral and on the opposite side to that of the lesion. Striking deviations from the typical form were, however, sometimes encountered. Thus, only one limb, or the nerves of the foot, or those of one arm, might be implicated in the paralysis; or the arm on one side and the leg on the opposite might be affected; or, in exceptional cases, all the limbs might be paralyzed.

What constituted a significant commentary on the cerebral physiology of the day was the fact that it by no means rarely happened that the paralysis was on the same side as the hæmorrhagic lesion. Recovery from the paralysis due to cerebral hæmorrhage might be so complete that there was little or no disorder of the gait, the only apparent sequence being slight weakness of the muscles. The final outcome was, however, by no means always so favorable; contraction set in, implicating by preference the muscles of the arm and hand, causing adduction of the former and firm closure of the latter. In the beginning there was relaxation of the spasm during sleep, but subsequently it persisted even when consciousness was suspended. The advent of this tonic spasm was coexistent with the occurrence of secondary degeneration in the motor tract of the cord. Disturbances of sensation also occurred often, especially at the beginning of the attack. There might be pronounced loss of sensibility in the muscles, skin, and joints; but these derangements were usually temporary and disappeared in a longer or shorter time, giving place to hyperæsthesia. Trophic disturbances assuming the form of acute bed-sores or inflammations of the joints were frequently observed. The arthritis was in the majority of cases unilateral; but the author had seen a case, in consultation with Dr. F. LeRoy Satterlee, of New York, in which the methemiplegic arthritis was unilateral, the swelling occurring at the time of development of the descending degeneration in the spinal cord. Fibrillary twitchings were noticed in the muscles of the healthy side just prior to the advent of the inflammation in the corresponding articulations. The author advanced the theory that these joint troubles on the healthy side might possibly be the sequence of the degeneration of the uncrossed pyramidal tract on the same side. An account of this interesting case might be found in the *New York Medical Journal* of March 16, 1889, page 291.

Disturbances of the mental mechanism were among the most frequent consequences of severe cerebral hæmorrhage. Sometimes the subject was lacrymose, and depressed or morbidly exalted; in other cases the condition was one of dementia.

Lobar Pneumonia with the Formation of New Connective Tissue.—This was the title of a paper by Dr. FRANCIS DELAFIELD, of New York. In describing this special form of lobar pneumonia he said that the ordinary belief had been that it was possible for a regular exudative lobar pneumonia, instead of resolving, to be succeeded by a chronic productive inflammation. The speaker's belief, on the contrary, was that a regular exudative lobar pneumonia terminated only in resolution or in death, and that lobar pneumonia with the production of new connective tissue was from the first a special form of inflammation of the lung. His reason for this belief was that he had seen a number of lungs which seemed to show the different stages of the inflammatory process. He had twelve cases, the histories of which he used to demonstrate that there was a form of lobar pneumonia that was from the outset anatomically distinct from the ordinary form. The development of the lesion seemed to be as follows: (1) Congestion of the lung, exudation of serum, fibrin, and pus into some of the air-spaces, and the formation in other air-spaces of irregular plugs with prolongations from one space into others. These plugs were composed of a nearly homogeneous or finely fibrillated material, none of them large enough to fill or distend the air-spaces. There were also swelling and thickening of the walls of the air-spaces, with a very considerable increase of the number of air-cells which covered them and a more or less general catarrhal bronchitis with fibrinous exudation on the pulmonary pleura. (2) New cells of the type of connective-tissue cells were formed in the plugs, and the walls of the air-spaces were more swollen and might be infiltrated with small round cells. New blood-vessels were formed in the plugs, which could be artificially injected from the pulmonary vessels. The gross appearance of the lung at this time was usually characteristic One or more lobes were consolidated; they were not large, as in ordinary pneumonia, but their color was red or green, and the cut surface smooth, not granular. (3) The growth of new connective tissue within the air-spaces, in their walls, and along the arteries and bronchi was so extensive that many of the air-spaces were obliterated. The surface of the lung was not covered with connective-tissue adhesions. The bronchi contained muco-pus. The lung was red, mottled with white, gray, or black, and was dense and hard. Portions of it might be necrotic, cheesy, or broken down into cavities. The clinical symptoms of this type differed somewhat from those of the ordinary form of lobar pneumonia. Although the patients had the same chill, fever, cough, expectoration, and pain as in the regular cases, yet there was something about the course of the disease which made its diagnosis possible even during its early stage. The temperature did not run high, but the tendency to cerebral symptoms and the typhoid state was very marked, and most of the cases ran a protracted and subacute course. Concerning the prognosis it was not possible to speak with certainty, but there seemed no reason why recovery should not be possible.

On the Ætiology and Pathology of Phthisis.—This was the part of the discussion on tuberculosis allotted to Dr. HENEAGE GIBBES, of Ann Arbor, Mich. On examination of the lungs of persons who had died from disease of these organs, he said, varied appearances were presented to the naked eye. These ranged from the small nodules found in acute miliary tuberculosis to the large, ragged cavities found in cases where the disease had even a more chronic course. There was one feature, however, that was common to all, and that was consolidation. This disease he considered, if judged by the lesions found in the lungs, to be of two kinds—one inflammatory and the other a new growth of reticular tubercle. The first, the inflammatory, consisted of pneumonic phthisis and the inflammatory form of acute miliary tuberculosis. The second, the tubercular, consisted of pulmonary tuberculosis and the tubercular form of acute miliary tuberculosis. In considering the ætiology, the speaker said that pneumonic phthisis, whether commencing as broncho-pneumonia, or starting *de novo* in the lung substance, seemed to him to be as easy of explanation as any other inflammatory process. The inflammatory form of acute miliary tuberculosis was also easily explained, as it was well known that it often occurred in measles, as capillary bronchitis did. In a child with deficient expectoration inflammatory products would accumulate in the bronchioles; a sudden fit of coughing would cause these products to be drawn into the lungs in inspiration; they would then be distributed into a number of air-cells, and their presence would be sufficient to cause inflammatory action even if they contained no morbid product. This would go on until there was a number of foci throughout the lungs which would not be all of the same age, and this was exactly what the microscope revealed. But when we tried to explain the relationship of tubercle bacilli to these two forms of inflammatory diseases the disease must be found in its earliest stage, and this we could not do in pulmonary phthisis, as the process had usually gone too far when death took place. We could, however, in the inflammatory form of acute miliary tuberculosis, find the process at its very first development. Careful examination in a large number of cases had failed to show tubercle bacilli in this situation, and yet when the process had gone on to caseation they were invariably present in enormous numbers. In pulmonary phthisis they were also present in large numbers, and in those cases of rapid breaking down called galloping consumption they were also present, and were noticeable from their size and the number of so-called spores they contained. In acute miliary tuberculosis, when the bacilli were found they were not in the necrosed portion, as might be expected, but were found singly in the meshes of the fibroid tissue; they might in this case be considered as forerunners of the disease, but if they were they ought also to be found in those tubercles where the disease process was just commencing, but in these locations the speaker had never been able to find them.

The Therapeutics of Pulmonary Phthisis.—Dr. E. L. Shurley, of Detroit, dealt with the therapeutics. Before proceeding with the subject he stated that he coincided with Dr. Gibbes and others in entertaining a doubt as to the entity of so-called tuberculosis and phthisis pulmonalis, and also as to their specific origin uniformly in the operation of the *Bacillus tuberculosis.* Although the nature of this microbe had been so plainly and definitely unfolded to us by Koch, yet it seemed impossible, both from a pathological and from a clinical standpoint, that such diverse conditions of the body as general or miliary tuberculosis, the several varieties of phthisis pulmonalis, so-called tubercular peritonitis, so-called tubercular bone or joint disease, lupus, leprosy, chronic adenitis, and so-called tubercular kidney, could arise from either the incursion, development, or latency of a single species of bacterium. Such conclusions were, moreover, not wholly based upon a philosophical comparison of clinical phenomena, but also substantiated by at least the following facts: First, that the bacillus was absent oftener than present in acute miliary tuberculosis, acute phthisis pulmonalis, or disseminated catarrhal pneumonia, tubercular peritonitis, tubercular disease of the joints and bones, and so-called tubercular kidney. Second, that sputum dried in the sun, thereby having its bacilli destroyed, was capable of producing phthisis pulmonalis. Hence it would seem proper to believe that some other action of a bio-chemical nature resulting in the production of a ptomaine, leucomaine, toxine, or toxalbumin, perhaps bearing some physio-chemical relation to the bacillus, might be accepted as the real disease process. Turning to therapeutics, he included under the head of general treatment the use of nutrients, analeptics, gavage, beverages, inoculation, vaccination, hypodermic injection, internal antiseptic medication, and enemata, both medicinal and nutritive. Under the head of local treatment came medicinal inhalations of gas, spray, and powders, external medication, including counter-irritation, cauterization, surgical measures, respiratory gymnastics, and pneumatic differentiation. The first and principal step in treating this class of diseases was that of absolute rest aided by the judicious use of antipyretics and nutritives. Whether anything could be accomplished by hypodermic injections was still a matter of conjecture. Thus far there was some promise from the use of subcutaneous injections of quinine bisulphate and liquor potassæ. Among the antiseptics used in internal medication were creasote, iodine, iodoform, carbolic acid, creolin, mercuric bichloride and biniodide, turpentine, resorcin, and cupric phosphate. At the present time, creasote and iodoform probably enjoyed the leading repute. Among the medicinal inhalations were carbonic acid, sulphurous acid, benzoate of sodium, hydrofluoric acid, peroxide of hydrogen, and ozone. The latter two had been known to produce excellent results. Inhalations of carbolic iodine, menthol and creasote, napthaline and creolin, had a decided beneficial effect on the so-called catarrhal states. Under inoculations, hypodermic injections, and vaccinations some very interesting experiences were related. The inoculation of animals with virus which had been taken after having passed through other animals, or obtained from animals which were affected with tuberculosis, or from the blood of tubercular subjects proved negative as prophylactics. In guinea-pigs and monkeys it was found that if an injection of a grain of iodine twice a day, and up to half a grain of chloride of gold and sodium, was given for from three to six days before inoculation, and continued for two weeks after, the animal was rendered proof against tubercular infection. Moreover, if monkeys were thoroughly treated hypodermically by these solutions, especially in alternation, they seemed to be incapable of acquiring phthisis pulmonalis by the insufflation of dried sputum. These substances had also been used upon human beings with encouraging results. The result in general tuberculosis had not been at all equal to that in phthisis. The general mode of administration was to give first the iodine, beginning with a twenty-fourth or a twelfth of a grain, increasing each day to one sixth, one half, or even a grain, according to the constitution of the patient. When the symptoms of iodism supervened, a solution of chloride of gold and sodium was used, beginning with one twentieth of a grain and gradually increasing to one fifth or one third. For the success of the plan it was absolutely necessary that the chemicals should be pure. The solutions consisted of chemically pure iodine, with iodide of potassium, pure water, and glycerin. The gold solution was composed of chloride of gold and sodium, one grain to the drachm of pure glycerin and water.

Koch's Liquid.—Dr. A. Jacobi, Dr. H. N. Heineman, Dr. W. C. Bailey, and others, in whom had been vested the work of making or superintending the most important of the initial experiments with Koch's liquid in this country, presented elaborately compiled reports embracing the most minute clinical observation of the cases so treated. It is necessarily beyond the scope of this writing to attempt to give these facts in detail, but the main features of them have already been widely published.

Dr. Jacobi considered that this new element in therapeutics was only the first installment of a series of remedies of the same character. Though perhaps he was somewhat disappointed in the results thus far, there was reason to hope that internal medicine would, by the aid of laboratory research, soon make equally rapid strides as surgery had made during the last ten years. To the many who would soon have the opportunity of using the liquid he would suggest the employment of small doses used continuously. He had noticed that where he had induced considerable reaction and high fever the cases did not do very well, while those which did not respond so actively had seemed to do better in the long run.

Dr. G. H. Fox, of New York, said that his experience had been limited to cases of tuberculosis of the skin. When he had first seen the effects upon lupus he had felt inclined to expect similar results in eczema, but, after repeated trials, had been disappointed. He could not even go so far as to say that in his hands the liquid had proved curative in pronounced cases of lupus. He was sorry to say that, though improvement had undoubtedly resulted up to a certain point, there would then be a cessation of the curative process and the disease would remain at a standstill. In only one instance had a cure resulted of lupus under his care, and in this the patient had been nearly well before the injections were commenced. He was obliged to conclude that so far the beneficial results were not what he had been led to hope for.

Dr. F. Bacon then gave in detail all the points in the three cases in which the liquid had been administered under his observation at New Haven, two of them being cases of advanced tuberculosis and one a case of lupus. These cases, while presenting no special clinical features, would be of historical interest, as to New Haven belonged whatever there might be of honor in having been the first city in which the liquid had been used in this country.

The Treatment of Gall-stones.—Dr. W. W. Seymour, of Troy, in a paper on this subject, after reviewing all the theories as to the possibility of successfully dislodging, dissolving, or otherwise effecting the removal of gall-stones by medicinal agents, concluded with the emphatic opinion that these accretions could not be dissolved and that all medical treatment for their dislodgment was likely to prove valueless. He held that operation should be early resorted to in a well-defined case, and an exploratory incision should be made where doubt existed. The mortality, where the operation was undertaken before complications had arisen, was but small, and it should be remembered that a post-mortem diagnosis was of no use to the patient and of very little consolation to the friends.

The Surgical Treatment of Ectopic Gestation.—This was the subject of a paper by Dr. C. A. L. Reed, of Cincinnati. (To be published).

The Action of Trypsin, Pancreatin, and Pepsin upon Sloughs, Coagula, and Muco-pus.—Dr. R. T. Morris, of New York, read a paper with this title. (To be published.)

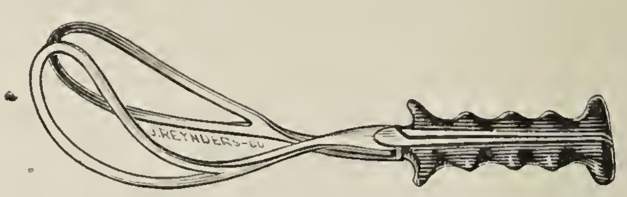
Operative Procedures in Acute General Suppurative Peritonitis.—This was the title of a paper read by Dr. W. E. B. Davis, of Birmingham, Ala. (To be published.)

New Inventions, etc.

A MODIFIED SHORT PERINEAL FORCEPS.

By Charles R. Hoffmann, M. D.

Several weeks ago I conceived the idea of modifying the perineal forceps now in use, and accordingly asked Messrs. John Reynders & Co. to make one for me. It is similar to the Elliot forceps, which is used in obstetrics for the superior strait of the pelvis; but may be used with greater ease to the obstetrician in the inferior strait, there being no necessity of exposing the patient until the head of the child is about to pass out of the vulva. In contrast with the Elliot large forceps, it is of about half the thickness in the blades, about half in length, and needs no screw—otherwise the two are much alike. I use it in my obstetrical practice with great benefit, particularly when cramped for time, and more especially when inertia of the uterus manifests itself in individual cases. It is then that the obstetrician need not fear to apply it, as it facilitates labor in extending the head more into the curvature of the lower pelvis, and acts as Nature's assistant. I have never ruptured a perinæum with it, as it is almost impossible to cause even the slightest laceration, the curve of the forceps being thin and rounded, the meeting of the blades narrowing to a minimum, and the instrument being adjustable to the course of the perinæum, fitting exactly like a glove to the hand. For that reason there need be no fear of laceration should the blades of the forceps and the child's head be suddenly expelled from the vagina. In multiparæ, where the perinæum has been stretched before, it is a great help to the busy practitioner; and in primiparæ it is just as handy, but requires a little more time.



Length, nine inches and a half. Width between blades, two inches.

243 East Eighty-sixth Street.

To Contributors and Correspondents.—*The attention of all who purpose favoring us with communications is respectfully called to the following:*

Authors of articles intended for publication under the head of "original contributions" are respectfully informed that, in accepting such articles, we always do so with the understanding that the following conditions are to be observed: (1) when a manuscript is sent to this journal, a similar manuscript or any abstract thereof must not be or have been sent to any other periodical, unless we are specially notified of the fact at the time the article is sent to us; (2) accepted articles are subject to the customary rules of editorial revision, and will be published as promptly as our other engagements will admit of—we can not engage to publish an article in any specified issue; (3) any conditions which an author wishes complied with must be distinctly stated in a communication accompanying the manuscript, and no new conditions can be considered after the manuscript has been put into the type-setters' hands. We are often constrained to decline articles which, although they may be creditable to their authors, are not suitable for publication in this journal, either because they are too long, or are loaded with tabular matter or prolix histories of cases, or deal with subjects of little interest to the medical profession at large. We can not enter into any correspondence concerning our reasons for declining an article.

All letters, whether intended for publication or not, must contain the writer's name and address, not necessarily for publication. No attention will be paid to anonymous communications. Hereafter, correspondents asking for information that we are capable of giving, and that can properly be given in this journal, will be answered by number, a private communication being previously sent to each correspondent informing him under what number the answer to his note is to be looked for. All communications not intended for publication under the author's name are treated as strictly confidential. We can not give advice to laymen as to particular cases or recommend individual practitioners.

Secretaries of medical societies will confer a favor by keeping us informed of the dates of their societies' regular meetings. Brief notifications of matters that are expected to come up at particular meetings will be inserted when they are received in time.

Newspapers and other publications containing matter which the person sending them desires to bring to our notice should be marked. Members of the profession who send us information of matters of interest to our readers will be considered as doing them and us a favor, and, if the space at our command admits of it, we shall take pleasure in inserting the substance of such communications.

All communications intended for the editor should be addressed to him in care of the publishers.

All communications relating to the business of the journal should be addressed to the publishers.

Original Communications.

A STUDY.
THE ANATOMY OF THE LUNGS AS SHOWN BY CORROSION,
CONSIDERED IN RELATION TO PULMONARY PHTHISIS.*

By J. WEST ROOSEVELT, M. D.,
VISITING PHYSICIAN TO BELLEVUE HOSPITAL,
ATTENDING PHYSICIAN TO THE ROOSEVELT HOSPITAL, ETC., NEW YORK.

In this paper I must apologize for repeating certain matters already published. This is necessary in order to make clear the facts and theories presented. The subject is sufficiently interesting, I think, to justify some repetition.

During the last year I showed, at meetings of the Practitioners' Society, and also of the Pathological Society, several specimens which illustrated more or less perfectly the anatomy of this little-explored region of the lung. I show you to-night specimens which I think will demonstrate with a good deal of completeness a number of details of considerable practical or theoretical interest. Some of these specimens have already been shown to the societies named, but many have not.

The method employed has been by injection and corrosion. The details of it have been communicated to the Pathological Society during the past two years. It is not necessary, therefore, to go over them again, except in a very brief manner. The mass usually used for injecting was a mixture of paraffin, wax, and resin in varying proportions. In some cases Venice turpentine was added to the other materials, and in some neither this substance nor resin was mixed with the paraffin and wax. The corroding agent was either strong commercial hydrochloric acid or crystallized chromic acid, or both. In one or two cases fairly successful injections were made with white celluloid, dissolved in alcohol and ether, and mixed with variable amounts of gum-resins, collodion, linseed oil, and pigment.

As the object of the preparations was to indicate as nearly as possible the actual course of the various structures during life, before injecting the bronchi the lungs were always inflated, and were always supported as carefully as possible while the injection was made by paraffin poured over them, and by being floated in the melted paraffin.

The technique I have communicated, as I have said, to the Pathological Society. I must add that if any one wishes to adopt the method he must be prepared for many failures. Practice alone will give the ability to make good preparations. There is something also which can be shown, perhaps, but can not be described, which may determine success or failure. I shall be most happy to show practically how I make the preparations, and all I know about the method, to any one who will take the trouble to try it.

There seems to be something demoralizing about corrosion studies. In Europe, those most successful in them seem to have tried, even when professing to publish them, really to keep their methods secret by omitting to mention certain practical details. There is a tendency to do this sort of thing among a certain class of European observers. In this country we do not, as a rule, apply the methods of trade to science, and make capital by keeping scientific processes secret for personal advantage. We may perhaps follow European methods too closely in many ways, but this particular fashion we do not often affect. There are a few American scientists, perhaps, whose view of science is so selfish that they fall into the contemptible way of attempting to aggrandize themselves, regardless of the loss of time to others and the duty of helping, for the general good, by every means, the advance of knowledge; but they are rare.

In corrosion specimens we are only concerned with the form of the things studied. We naturally have nothing to do with the tissues which bind the organs together or with the structure of the walls which contain the casts, since these are purposely destroyed by the acid.

The bronchi differ upon the left and right side. The left lung, having no middle lobe (or probably, as Aeby says, no upper lobe), has usually two main tubes—one for the upper and one for the lower lobe. The branch to the lower lobe is practically the same in both lungs. A line drawn through the center of this bronchus, beginning at the entrance of the primary bronchus and terminating at its first branch, may be regarded as the central stem of the lung. All the bronchial tubes radiate from this center. I think it may also be said that this line is the center of the expansion of the lung. From it all the bronchi and the arteries run normal to the planes of expansion. The right bronchus differs from the left, because of the large branch given off to the upper lobe and the subsequent distribution to the middle and lower lobes. I show some specimens of partially injected lungs which demonstrate the course of the larger tubes.

There has been some dispute as to the mode of division of the bronchi. Certain observers have stated that they invariably divide into two. Others, following Aeby, say that the division is always axial. The specimens of adult lungs which I show you demonstrate, I think, the extent to which each of these sets of observers is correct. An uneven dichotomy, as Ewart calls it, may perhaps describe the mode of division, but "uneven dichotomy" is rather a vague term. In the child's lung there is evidently one large descending bronchus, running through the posterior inner part of the lower lobe, carrying air to it, and from this a number of smaller tubes are given off. The other lobes also show a rather similar arrangement. In the adult lung these main tubes are more difficult to show, because of the great relative increase in size of their various original branches. Good casts even of the child's lung, moreover, show several smaller tubes besides the larger one arising from the main bronchus.

It is rather interesting to note that injections made in the way in which Professor Aeby made them, with fusible metal and with very low pressure, are exceedingly apt to give a mold which resembles almost exactly his well-known diagram. Injections made, however, with the same metal under high pressure, as was done by Ewart, give a different picture. And the same may be said of injections made in the way which I myself have adopted. The specimens figured by Ewart, as well as those which I now show you from adult lungs, are very hard to reconcile with Aeby's description or diagram. The various tubes starting from the center mentioned run toward the surface of the lung in as direct a manner as is possible, seemingly normal to the planes of expansion of the organ. They give off branches one at a time, but they can not be said strictly to divide either axially or dichotomously. The arteries follow the course of the bronchi. Each branch of artery and each branch of bronchus correspond exactly. The veins pursue an absolutely different course, and, as has already been pointed out by Ewart, run as far as possible from the arteries and bronchi. In a paper published last year I called attention to the fact not only that the veins ran, as Ewart in his book has pointed out, as far as possible from these other structures, but also that their general course was such as to make them cross the bronchi and arteries again and again before they reached the surface of the lung. This course can not be demonstrated positively to be such as to bring the veins always in nodal places in respect to lung expansion, but it seems very probable that the air-pressure in the bronchi is so balanced by elastic retractile force that the latter actually, during both inspiration and expiration, tends to hold the veins open. In this way the obstruction to the blood current through the veins is reduced to a minimum. During inspiration, the arteries, like the bronchi, are pulled upon longitudinally, and the chest expansion which draws air into the bronchi also tends to draw blood into the arteries. During expiration, while air is expelled, the arterial blood-pressure is also raised as the contraction of the chest tends to force blood back toward the heart. As far as the veins are concerned, it seems very probable that neither the expansion nor the contraction makes much difference in their blood-pressure. It will be noted that the veins of the body correspond to the arteries of the lung, and that the veins of the lung correspond to the arteries of the body, and it seems likely that, as the systemic veins feel so greatly the respiratory movements, so also do the pulmonary arteries. The pulmonary veins may almost be regarded as being outside of the chest, so far as the physical effects on their blood-pressure produced by chest motion are concerned, and even to a less degree than the systemic arteries should be affected by such motion.

---

* Read before the Section in General Medicine of the New York Academy of Medicine, December 16, 1890.

The pulmonary arteries have a peculiarity which is not unlike that of the portal vein in the liver; they give off a very large number of small side branches. An arterial trunk, for example, a quarter of an inch in diameter, may be shown to give off thousands of little trunks, so that in some preparations it looks as though it were surrounded by fine moss. The pulmonary arteries are, of course, all to be regarded as terminal vessels. There is no communication between any large trunks. This is not at all the case with the veins, whose branches (at least on the surface of the lung) communicate very freely with one another. One vein, moreover, receives blood from a number of surrounding arteries.

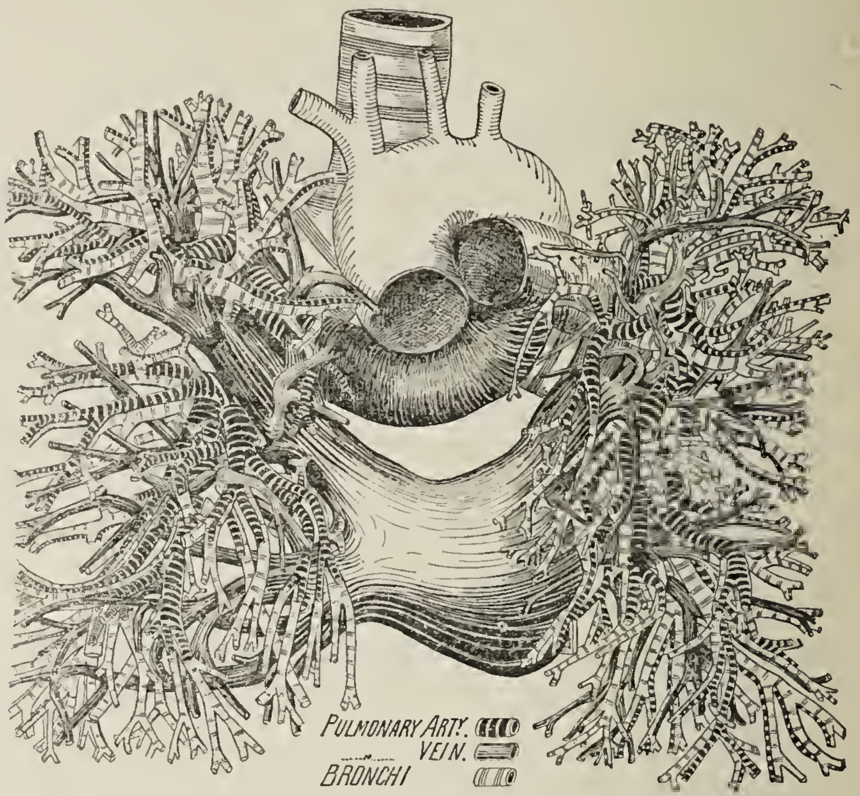


FIG. 1.—A DIAGRAM OF THE PULMONARY ARTERIES AND VEINS AND OF THE BRONCHI. (After Ewart [bronchi and pulmonary vessels]; reproduced with the kind permission of Dr. Ewart.) The course of the arteries accompanying the bronchi is shown, while the veins are seen to pursue a different course.

The bronchial arteries, and the question whether they empty into the pulmonary artery or vein, have been the subject of much study. There is, of course, no doubt that a considerable portion of the blood nourishing the larger bronchi is returned to the systemic venous system through the bronchial veins. What becomes of that which nourishes the smaller tubes and, I must add, the walls of the pulmonary arteries and veins, is the question. The greater number of observers maintain that this blood is poured into the pulmonary veins, and not infrequently it is said thus to "contaminate" the systemic arterial by mixing some venous blood with it. Certain observers say that this amount is so small as to be of little moment. Others think it likely that the closeness of the air to the capillaries of the fine bronchi renders this blood arterial at once, and that, therefore, there is no such "contamination."

That this question should ever have been a matter or dispute seems to me to show that there was no reason for the dispute. Evidently the bronchial capillaries empty somewhere, and equally evidently after reaching tubes of a certain size they do not unite to form bronchial veins, but empty into the pulmonary vessels. Now, there is a physical matter connected with this question usually overlooked. It is this: The bronchial arteries must necessarily empty after forming capillaries into the vessels whose pressure is less than that of the blood which has overcome the resistance of these capillaries. If the pressure in the pulmonary artery exceeded that in the capillary plexus of the bronchi, the current would flow toward the bronchial arteries until the forces of the left and right heart counterbalanced one another, when stasis would result. The pulmonary arterial pressure can hardly be less than that of the bronchial capillaries, as it is produced by the strong right ventricle. It is evident, moreover, that the pressure in the pulmonary veins is less than that in the pulmonary arteries, and it is stated to be less than that of the systemic veins. There can be theoretically no question that the bronchial vessels must empty into the vessels having the least pressure—*i. e.*, the pulmonary veins.

I have said that these vessels empty into the pulmonary veins because in them there is the lowest blood-pressure. The fact that the pressure in the larger pulmonary veins is less than that in the vena cava does not necessarily prove that the blood which passes the bronchial capillaries is lower than that in the pulmonary arteries; but if it is not so, then pressure of this blood must be greater than that in the pulmonary arterioles, in spite of the force of the right ventricle. I can not say that I have demonstrated the course of these vessels, but I can say this much: After injecting the pulmonary blood-vessels and tubes with a paraffin mass, I have injected the bronchial arteries with a mixture of collodion and celluloid and other substances soluble in ether and alcohol. The injections have never been sufficiently perfect to enable me to say positively that the blood from them entered the pulmonary veins. In one or two of them, however, it seemed that this artery broke up into capillaries through which the mass had passed and from which it had apparently run directly to the pulmonary veins. From microscopical study of the lungs injected with gelatin and Prussian blue in the usual way, through the pulmonary artery and vein, in which lungs, however, the injection had been sufficiently complete to fill the bronchial arteries and run out through their main stems, it seems demonstrable that the bronchial arteries form a capillary net-work in the walls of the smaller bronchi, and that the capillaries traverse the peribronchial connective tissue and directly communicate with the capillaries of the air vesicles which are nearest to the bronchi. It seems, therefore, almost certain that the bronchial arteries simply break up, as all arteries do, into capillaries and nourish the tissues through which they run, in doing which their blood gives up oxygen and absorbs carbonic acid. The capillaries of these arteries, however, after reaching the smaller tubes, communicate with the pulmonary veins indirectly through a set of capillaries which are a part of the respiratory system of the lung itself, and in these they immediately give up their carbonic acid and take oxygen from the air. Through these capillaries we have a direct connection between the pulmonary and systemic systems of vessels; but the blood passing through them can not be said to contaminate in any way the blood in the pulmonary veins. I show a specimen in which a more or less complete injection is made of the bronchi and bronchial vessels and of both sets of pulmonary vessels. It is rather interesting to note that this specimen shows the branches of the bronchial arteries passing through and running upon the surface of the pulmonary arteries as well as upon the surface of the tubes.

After the careful and satisfactory work done by Ewart it is not necessary for any one to attempt to describe and name the branches of the bronchial tubes or of the blood-vessels. It is advisable, however, to call attention to some points, since the recent work of Koch and his well-known treatment for tuberculosis may give an extreme amount of importance to the surgery of the lungs.

Now, these organs can not, from a surgical standpoint, be studied after the usual style of the scientific anatomist, for there are practically no landmarks within them to guide the surgeon. It is as well, therefore, to call the attention to a few facts which the specimens that I now show demonstrate plainly. Owing to the course of the arteries and bronchi from the root toward the surface, a course practically always normal to the planes of expansion, an incision made parallel to any part of the surface will cut a great number of air tubes and arteries. An incision made from any point on the surface toward the central stem will avoid most of these structures. In an operation, therefore, upon the lungs this fact is to be borne in mind, and, whatever method is devised, it will be found that the incisions made in the lines radiating as has been described will necessarily do the least damage and produce the least hæmorrhage. The same statement is true in regard to collapsed lungs; but in this case the course of the vessels and bronchi is by no means so straight as it is in the expanded organs. The artery running to any part of the surface may be compressed by pressure at a point over any line drawn from it to the root. Ewart demonstrated collapsed lungs. The specimens shown to you were all expanded fully before the injections were made, and therefore represent much more nearly the actual condition of things within the chest when the lung is not collapsed.

In this connection it is not perhaps worth while to direct attention to the fact that in all probability it would be perfectly easy to operate upon the lungs without allowing them to collapse. Probably the whole lung would remain expanded if the patient breathed compressed air. It would be very easy to devise and apply an apparatus which would increase the pressure within the chest, and through this ether might be given. It would only be necessary to have a mask so shaped that it would fit closely over the nose and mouth. The ether could be given through this mask and suitable valves would permit of inspiration and expiration taking place. It is very likely that with such apparatus a large portion of the lung might be laid bare and freely incised without causing the least collapse of it. Of course it will be understood that this is merely a suggestion possibly of no earthly value. But it is a suggestion sufficiently plausible to be worth thinking about.

The anatomy of the finest bronchi, and of the lobules, is shown in a number of casts presented to-night. Two drawings, made by Dr. H. Macdonald, from sketches of my own, illustrate the appearance of the air-passages and air-vesicles under a moderate power. The reproductions of these and a description of them will appear in the Pathological Society's *Proceedings*.

The sudden breaking up of the pulmonary artery into capillaries, which is well known to occur at its entrance into the lobules, is of peculiar interest, because it takes place where the bronchi subdivide into air-passages, and because also it is at this place, according to Rindfleisch, that the miliary tubercles have their original site. This author believes that the reason that these tubercles are found most frequently in the situation mentioned is to be explained by some peculiar behavior of the air currents. It is not necessary to go over his views. It is, however, worth while once more to call attention to this fact: that, in spite of experiments showing the possibility of infection by dried tubercle bacilli kept floating in the air, there is yet no proof that these actually enter the air-vesicles by inhalation and not otherwise. The question has not yet been answered in a satisfactory way why tubercle bacilli are inhaled into the upper lobes of the lungs in so many cases, while the bacteria of pneumonia in a vast majority of cases are lodged in the lower lobes; moreover, it still remains to be explained why in so very many cases the tubercles are found on the surface of the lungs beneath pleural adhesions. There must be something very peculiar about air currents which so sharply separate one bacterium from another, and which, moreover, seem to carry the tubercle bacillus with such tender care to the extreme surface, and there to lay it down in a pleasant though remote spot, where it may rear its family in peace and cause pleural adhesions.

The theory of inhalation seems to me absolutely improbable. Turning now to other ways by which the bacillus may be introduced into the lungs, we have only the lymphatic and the arteries. In regard to the former, I have been unable to find any proof that, under all circumstances, the lymph flows in the same direction. It is most probable, however, that it flows toward the root of the lung.

When we look at the course of the blood-vessels, we see that the pulmonary artery arises from the right ventricle and that it divides into two large trunks, both of which form arches with the radii of their curves toward the heart, and that the first branches from these are given off from the peripheries of these curves and then run almost straight toward the surface of the lung. Let us suppose that there is introduced into the right ventricle a small embolus of higher specific gravity than that of the blood plasma. Such an embolus would be expected first to be thrown against the upper wall of the main artery and then to enter one of the branches which supply the apex of the lung. This theory is founded upon the usual behavior of solid particles in moving fluids. Such bodies, if heavier than the fluid, are thrown against the peripheral wall of the tube which is curved. If the masses containing bacilli are very small they would, theoretically, reach the part of the apical artery near the pleural surface, and if somewhat larger, one would expect them to enter some of the branches of the artery and to be arrested exactly at the place where Rindfleisch says that the tubercles most often originate—namely, at the point where bronchus and vessel enter the lobule and where the rather large artery suddenly breaks up into capillaries. The reasons which make this theory seem plausible need, perhaps, a little more explanation. In rapidly moving liquids which are inclosed in curved tubes it will be seen that the so-called "centrifugal force" would make particles heavier than the liquid tend to fly toward the peripheral wall of the tubes, and particles lighter than the liquid should tend to follow the wall nearest the center. Of course this is most marked when the tubes are large enough for the attraction of their walls for the contained fluid and particles to be of little importance, and when the solid particles are large enough to develop a momentum sufficient to overcome the friction of the fluid which tends to obstruct their motion. If the particles were very small, they would be apt to change their position but little in a fluid like blood in tubes of the curve of the pulmonary arteries when propelled at the speed of the blood current.

Looking at the arteries of the lung, as shown in these casts, it will be seen that the direction of the main trunk is such as to produce a sharp curve downward. The largest branch also runs downward to the lower lobe or lobes. When, however, the middle-sized and smaller branches are studied they are found to run quite straight toward the pleuræ, giving off still smaller vessels, nearly at right angles to the main trunk. This trunk, however, is pretty large until, near the pleural surface, it suddenly divides into a number of small vessels, and these reach, as is visible to the naked eye, almost to the surface of the organ before dividing into capillaries.

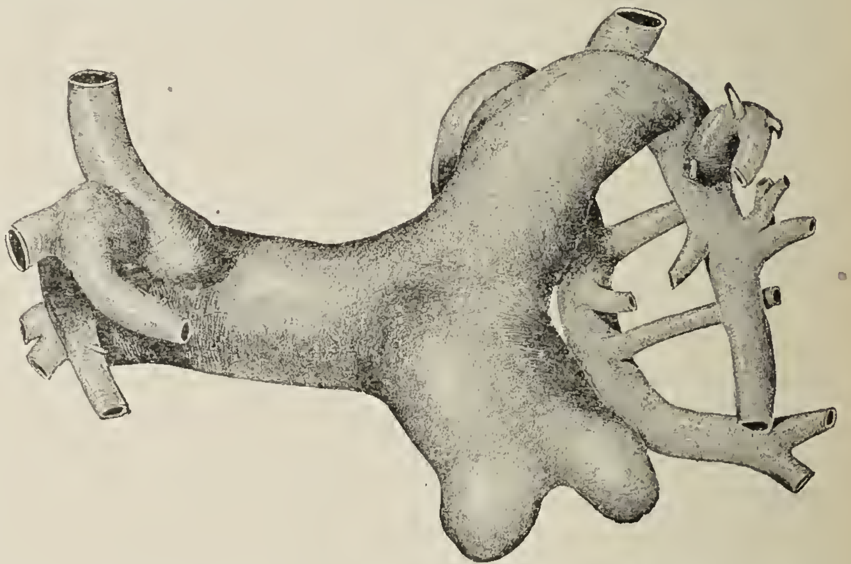


FIG. 2.—FRONT VIEW OF THE PULMONARY ARTERY AND SOME OF ITS PRINCIPAL BRANCHES. (From a metallic cast made by the author.) The pulmonary semilunar valves have made the two projections in the lower part. A representation of the fine details of the specimen is impossible in the present paper.

The behavior of small emboli heavier than the plasma would probably be different from that of large ones. They would be likely to take a course which would carry them lower down than larger ones, and also upon entering the straighter vessels they would be more apt to follow the larger branches directly toward the pleura, and there to be arrested at the capillaries. If the emboli were numerous they would probably scatter more or less widely through the lung, as is the case in miliary tuberculosis. Although these very small bodies would, theoretically, be less affected by the curved course of the vessels than the larger ones, still they ought to feel its influence more or less, and tend, on the whole, to affect the upper rather than the lower lobes first. Of course the impediment to the circulation becomes greater and greater as vessel after vessel is plugged. Hence the blood current becomes slower and slower in the affected lobes as the process spreads. The current in the lower lobes then becomes relatively more rapid, and new emboli will be likely to be lodged at lower levels. It is also quite probable that the bacilli, having once caused the tissue to break down, would then be distributed by the air currents, as well as in other ways. In phthisis the lesions usually begin in the upper lobes, and in many cases, besides the tubercular process and the pneumonia going with it, there is disease of the arteries, and the bronchial glands or some other lymphatics are tubercular.

In a previous paper I spoke of various objections to the inhalation theory of infection, and also called attention to the probability that all parts of the lung were expanded, in proportion to their bulk, by the chest movements. Unquestionably the region of least actual motion must be in the vesicles about the root and those lying near to the spinal column, but it is most probable that the chest movements are such as to affect equally every lobule throughout the lungs.

Those who would explain the frequency of tubercular disease of the upper lobes by infective matter carried by the air currents give various ways in which they think it takes place. Some contend that the upper lobes move less than the lower, owing to the form of the ribs. Why this should cause them to inspire bacilli oftener than the lower lobes is not clear, but we are told that it is not because the bacilli are drawn in, but because they are not forced out. The expiratory power is insufficient, and during coughing, etc., the air is forced into the apices, carrying with it secretions containing infective matter. If this statement is correct, why do we not frequently find the upper lobes choked up with these secretions?

Any theory based upon the thoracic respiratory movements must take into account that in women the thoracic, and in men the abdominal, style of breathing should exert some influence, and must explain why greater and lesser relative movements of the upper parts of the thorax both produce the same results upon the upper lobes.

Once more reverting to the theory that coughing empties more thoroughly the lower than the upper lobes, and even drives air and secretions into them, and that this is caused by relatively slight apex motion, let me call attention to the fact that the statement usually made, that the upper thorax evidently does not move in coughing as much as the lower, and evidently bulges during the forcible expiration of cough, is not altogether true. The upper part of the thorax only *seems* to bulge out in this case, because during the forced inspiration preceding the cough the lower ribs are fixed by the diaphragm, while the upper ones move more freely. The upper thorax is thus bulged out. When the cough expiration occurs, the lower ribs move less than the upper, and also are *sooner* fixed by the abdominal muscles. Hence the upper chest during expiration has been thought to be actually expanded when it is only so relatively to the lower. There is no such thing as forcing air into the upper lobes in coughing expiratory movement.

To the question "How does the tubercle virus find its way into the blood?" it seems correct to reply that the path of the virus is probably through the lymph channels, being absorbed by lymphatics in the mouth, nose, trachea, larger bronchi, gastro-intestinal tract, or in any way the bacilli, with, perhaps, some cheesy matter and white cells, enter through the thoracic ducts into the venous blood. These masses of bacteria, etc., are lodged in the upper lobes. If very small, they are apt to be found at the pleural surface; if large, they are lodged in some branch of the pulmonary artery of the upper lobe, a little nearer the root of the lung.

Of course this is all conjecture, yet experiments now under progress make it seem very probable. I hope in the future to demonstrate by various devices that the theory is almost certainly correct.

It is well, I think, before closing, to outline the methods of study by which I hope to learn something about the path followed by the tubercle bacillus in entering the lungs. Of course microscopic studies of tuberculosis as found in the lungs in the lower animals induced by injection into the veins or the aqueous chamber, the peritonæum, or elsewhere, and of acute miliary tuberculosis in the human lung, must form a large part of the work. It is rather interesting to inquire whether those tubercles which are found in the lungs after intravenous or other extra-pulmonary injections can be shown to differ in their relations to the air vesicles from the tubercles found in cases where inhalation has been supposed to lead to the infection. Tuberculosis of the lungs following artificial inoculation may occur in more or less widely separated nodules, or may present rather localized masses. These masses may distinctly show a tendency to affect the apices or they may not. It is necessary to practice intravenous injections with bacilli contained in media of varying consistence and specific gravity.

So far as inhalation experiments go, a most important thing is, evidently, to exclude all possible effect of the blood current. A living animal eats, breathes through passages presenting a large surface of mucous membrane, and is possessed of lymphatics, and it is quite possible that substances supposed to have entered the lungs by inhalation have really been introduced by the lymph or blood or both. In order to eliminate this source of error, the device of preserving lungs in an elastic condition is worthy of experiment, and I hope will be of value. It is possible thus to prepare lungs, and it is also possible to cause an artificial circulation if a fluid like a thin oil which does not exude from the vessels is employed. The method by which these elastic lungs are made is based upon the use of the old glycerin-carbolic-acid mixture. After injecting the organs with a solution of chromic acid, alcohol, acetic acid, and water, a solution of glycerin and carbolic acid is made in water. This is injected, and after it has been as far as possible drained out of the lungs, the process is completed by injecting some fixed oil like olive oil, containing a small amount of some essential oil. The lung thus prepared retains an elasticity which seems to be as nearly as possible the same as that of one freshly removed. I show a specimen taken from the body at an autopsy January 11, 1890.*

It will be seen that in this specimen the color is nearly natural, that the surface of the lung when collapsed is rather wrinkled, which is not natural, but that the organ expands and contracts in a manner which makes it hard to believe that it was not just removed from the body. On percussion, we get a normal note when the lung is inflated. Auscultation while air is alternately introduced and expelled shows what seems to be an exaggerated but otherwise a normal vesicular murmur. With such lungs I hope to ascertain where fine powders lodge. Of course it is necessary to arrange the apparatus so that the lung inspires and is not expanded by compressed air. A negative pressure on the lung surface from chest expansion draws air in. It is preposterous to compare the effects of positive pressure at the trachea with the effects of negative pressure at the lung surface. The currents resulting from the rush of air toward a partial vacuum are very different from those caused by air propelled by pressure exerted behind. Pushing and pulling an elastic substance produce very different results, and the elastic air must behave quite differently when it is drawn in toward a lessened resistance than when forced by pressure behind toward a greater. Evidently, during inspiration the first effect of chest expansion is to rarefy the air in the lobules. This rarefication progresses rapidly through the bronchi and trachea, and results in a rush of air through this latter. It will be noted that under these circumstances the resistance is progressively less as we go from the center toward the periphery. In the case of air forced in by positive pressure the resistance is always greater near the surface than at the center. Expiration always occurs under positive pressure, however the lung is inflated. I must ask your pardon for going into this sort of detail, but it seems that the simplest lung physics are not well understood by many physicians, and this particular question of positive and negative pressure and their effects upon elastic and non-elastic media seems especially troublesome. Physicists seem to have overlooked the behavior of fluid media like the blood in elastic tubes like the blood-vessels, and I have been unable to find information of a positive kind about the behavior of elastic media like air in elastic tubes like the bronchi and pulmonary lobules. The problems are very complicated, but this much may, I think, safely be asserted: that there can be no doubt that in every case the speed of the air currents in the lungs is in proportion to the resistance ahead, and therefore is relatively greater in the smaller bronchi and air-passages than in the larger when sucked in as in normal inspiration, and greater in the larger than the smaller when forced in by positive pressure.

---

* This was shown at the last meeting of the Pathological Society and the details of the method of preparation were given.

Under the negative pressure caused by inspiration the air first moved is that in the lobules, and that last moved in the upper respiratory passages. Under positive pressure this is reversed; the air in the upper passages is first compressed, and that in the lobules last. The most rapid and earliest motion is near the center under positive, and near the periphery under negative pressure. When inspiration begins, let us suppose that the air in the lungs is everywhere at rest. (This is not the case, in fact, for there is still some little air passing out of the trachea, as can be seen, until a little expansion of the thorax has begun.) The result of the chest expansion is, as has been said, to cause a rush of air into the lungs. This rush begins in the peripheral parts. At the end of the inspiratory expansion the air still continues to rush in, since the great resistance caused by friction, etc., prevents it from immediately following the chest movements and filling the partial vacuum. The chest now begins to collapse in expiration. The result is that the air in the peripheral parts first, as the negative pressure is arrested, stops, and then under the positive force caused by the collapsing thorax first momentarily becomes motionless, and then, the expiratory pressure being greater than that of the atmosphere, begins to rush out through the smaller bronchi, and first brings the air rushing in through these tubes to a standstill and then causes it to be expelled. In connection with this it is interesting to note that there is normally no very appreciable interval between inspiration and expiration in healthy chests in which the vesicular murmur is audible, but that when bronchial breathing is heard through hepatized lung or under any circumstances, there is a distinct pause between the inspiratory and expiratory sounds. Theoretically the air in the lobules should very quickly be affected by respiratory movements, while in the larger tubes a much longer interval ought to elapse before the rapid inrush of air during inspiration is stopped, and then theoretically some little time should elapse before the pressure in the lobules could travel through the smaller to the larger tubes and cause the outward rush. Those who believe that the vesicular murmur is only a modification of the bronchial note should think this over and explain it.

I hope at some future date to demonstrate, by studies of elastic lungs under negative inspiratory and positive expiratory pressure, certain matters of interest in respect to the mode of infection by the tubercle bacillus, and also perhaps to some questions of physical diagnosis.

I attempt in this paper to give an idea of the results of two years' work. Of course, it is impossible to give any adequate representation of the specimens shown to one who does not see them. To summarize what I think is shown is very easy:

1. Corrosion preparations are valuable in the study of the lungs.

2. In the lungs these preparations show that the course of the arteries and bronchi is practically the same. They run in a direction normal to the planes of expansion. The veins run far from them and frequently cross them, and their course is such as to make it probable that the blood-pressure within them is little affected by respiratory movements.

3. It is not proved that the air currents in the lung during inspiration and expiration are able to cause the bacillus of tuberculosis to lodge so often in the upper lobes and near the pleural surfaces.

4. Those who maintain that the motion of the chest walls causes in any way such movements of the lungs as to inspire tubercle bacilli into the upper lobes so frequently must explain two things: (*a*) Why the greater relative movement of the upper part of the thorax in women and the smaller relative movement of the same region in men *alike produce this effect*, and (*b*) why pneumococci usually lodge in the lower lobes if they also are inspired?

5. The course of the pulmonary arteries and the laws of bodies in fluid media in motion in curved tubes make it

certainly worth while to ascertain whether these blood-vessels do not carry the bacteria to their usual seat.

This is all. Let me remind any one who asks, What is the use of all this? of the reply of Faraday to the simple-minded idiot who inquired, in regard to the first electrical machine, "What is the use of it?" The retort contemptuous was: "What is the use of a baby?" Of course, had the sarcastic scientist been a member of our own profession, he would have appreciated the most immediate use of a baby, financially at least. It is always worth while to try to learn a little more about anything. I had no idea, however, that this same work might possibly prove of "practical" value. If lung surgery is to be, through Koch's work, a matter of immediate importance, as is possible, then perhaps this infant of mine may prove useful to the surgeon.

If the study is of no surgical value, a reply to one asking this most irritating question, as to the tangible and immediate use of *any* work which is less contemptuous than that of Faraday, may be really more just, and is certainly more courteous. It is this: If it has no other use, it may show some one that it is needless to waste time in undertaking similar studies. Time is the one invaluable thing in the world, for, if wasted, it never can be replaced. A blunder is worth something if it is recorded, so that some other man may avoid a similar one. It is worth while to do something, even if only to prove that it is not worth doing again. Besides all this, facts are always of value, often of unexpected value. If this work has added even a little to any one's knowledge, it is of use.

RAILROAD SURGERY.[*]

By CLINTON B. HERRICK, M. D.,
ASSISTANT SURGEON, TROY HOSPITAL.

It is not without some hesitation that I have prepared, and now present before this society, a paper on railroad surgery. The literature of this subject is so very limited that any one who starts out into the field must do so with personal observations as a basis for his theories and advice in regard to the management of this class of injuries.

The great increase during late years in the number of railroads, with their corresponding number of individuals employed in operating the same, as well as the increase in the number of persons carried as passengers, have been the means of causing and thrusting upon surgeons a class of injuries which have come to be distinctive. We can not look upon an extremity injured by a train of cars having passed over it as in any way similar to a crush from other causes. Those produced by heavy machinery come the nearest, perhaps, to it, but even here the violence has not been that of a moving body carrying an extra force depending upon its velocity as well as upon its weight. The name of military surgery has been permanently given to injuries inflicted in battle, and such injuries are treated in a special manner. There is no reason why railroad surgery should not also be adopted as pertaining to injuries by cars, as they too are of a class that require judgment and attention quite different than the same lesions produced in civil life.

We have a force the nature of which produces severer wounds than are ordinarily seen by the civil surgeon. The injuries very frequently occur at some distance from surgical aid, the injured requiring transportation for hours before being attended to. Many times the injured brakeman lies alongside the track, or crawls as best he can, until discovered by his companions, thus not only losing considerable blood, but rendering his chances for recovery from the shock of injury very slight, or, if subjected to an operation, he more readily succumbs to its prostrating effects. These are all factors of great weight when attached to the question of the course and prognosis of the case. As an instance: Charles Farly, aged twenty-two, fell from a freight train during the night, and the cars passed over both legs. Not being missed and finding himself alone, he dragged his mangled feet behind as he crawled along on his knees, for several miles, before a rescuing party found him. He kept up his "grit" until reaching the hospital, four hours after the accident, when a double amputation was performed. He rallied well from the operation, although quite weak. On the third day a moderate secondary hæmorrhage occurred which he was unable to cope with, the effects of his superhuman effort no doubt hastening his death, which took place on the fourth day.

The subject of railroad surgery may be divided for consideration into injuries of the head, those of the hand and fingers, and those of the extremities.

Of the injuries to the head, scalp wounds are frequent. In the majority of instances other injuries are found in the same case, either simple or compound fractures of an extremity or contusions of various parts of the body. Fracture of the skull may also be present. If so, it is usually found at the bottom of the scalp wound, for, as the fracture has been caused by violent contact with rough bodies, such as stones, railroad ties, or rails, an external wound is an almost certain accompaniment. However, if the fracture should be at the base, the usual signs, such as bloody discharge from the ears and nose and coma, are diagnostic. As to concussion, only the severe forms are met with, for the reason that enough time usually elapses between the accident and the time of being brought to the hospital to allow the symptoms of slight concussion to pass off. In treating this class of injuries the rules are those of antiseptic surgery. Scalp wounds should be well cleaned of dirt, edges shaved of hair, and 'plaster strips adjusted, allowing free drainage. Fractures should likewise receive modern treatment, depressed portions of skull be raised, and loose pieces removed.

Injuries to the hand and fingers constitute fully one half of all those received by railroad employees. They are usually caused by getting the member between the bumpers, or "deadwoods," when cars are about to be coupled. They present in varying degrees of severity, from a squeezed finger to a crush of the entire hand. These injuries always look worse than they really are. The tissues are generally bruised to a considerable degree, tearing the skin and allowing the muscular fibers to protrude. Swelling almost immediately supervenes upon the injury, adding its distortion to the appearance. As to the treatment of the severer injuries of this class there has been considerable discussion. The majority of observers agree that conservatism in hand injuries should be practiced to the fullest extent. Where the case is one of complete pulpifying of the entire hand, nothing remains but amputation at or above the wrist joint: but where a portion only of the hand is gone, all should be thoroughly cleansed from foreign matter, such parts as are held only by shreds of tissue removed, the remainder dressed in a soft antiseptic manner, using plenty of iodoform dust, and, with support by a broad splint, healing be allowed to proceed by granulation. In this way the hand may many times be spared to be a useful one. As, for example, J. S. was injured Sept. 10, 1888, receiving, by a bumper accident, a crush of the index finger and considerable contusion of remaining fingers and palm of the hand. The index finger was amputated, and the rest cleansed, after which all was dressed antiseptically and supported by a palmar splint. The result was very satisfactory, the patient returning to work with a useful hand.

---

[*] Read before the Medical Society of the State of New York at its eighty-fifth annual meeting.

There is some question as to the propriety of attempting to save the fingers when the chances for joint motion are slight. I hold that, if motion is out of the question as a result in the index, middle, or ring fingers, they might better be sacrificed at first, for, if left on, they will be useless and painful, as numerous instances show. However, in regard to the thumb, an effort to save it should be attempted in every case if enough tissue, either of its own or of adjoining parts, can be utilized to form and hold its shape, for it is of the first rank in importance in the use of the hand. The little finger ranks second, and the others equally last.

Injuries to the forearm and upper arm, leg, and thigh are frequent both in employees and among men and boys who catch rides on trains. They range in severity from a simple fracture to a complete crushing off of the arm or leg. A simple fracture is treated as in an ordinary case. In a compound fracture, a bulky but firm antiseptic dressing, with side splints applied, and good after care, obtains the best results. Fixed dressings should never be applied in these compound fractures, as there is great danger of the subsequent swelling producing dire results. Even with fenestræ, the discharge will get under the dressing and create sepsis. In cases where the car-wheels have passed over the arm or leg, or have so squeezed it between the flange of the wheel and the girder as to bring up the question of immediate amputation, we encounter what has always been looked upon as a point requiring great nicety of judgment and grave consideration. It is quite unnecessary to say that, where the distal part is hanging by a few shreds of tissue, it is not to be considered in any other light than as if it were entirely severed and gone. The appearance of these injuries is many times misleading. The skin may be almost intact and the muscles apparently in proper relation and condition, when close examination shows all to be a mangled mass and the bone pulverized. If there is no crushing of the bone, and the arteries with much of the muscle remain intact, an effort to save the extremity would probably be justifiable. This question, however, must be sharply handled, and I believe that the bold and fearless operator will obtain the better results. A mangled leg may be saved, but it can not always be called a success, for, in the majority of cases, such a one is not so good-looking or so useful as a cork leg. The following is an example: M. Skaae was injured on March 18, 1889, the car-wheel inflicting a compound comminuted fracture of the left leg. He refused the advice of the surgeons to have an amputation performed. He saved his leg, but at this writing, nearly a year after the injury, he uses crutches, and is unable to do any kind of work.

Some of the older authorities, also Mr. Bryant, call it bad and unjustifiable surgery to remove one inch more of a leg than is absolutely necessary, and enjoin to keep close to the wounded parts. This idea, however, must be entirely set aside in railroad surgery, as here the cause of the injury must be considered before deciding the question, Where shall we amputate? In itself, the line of wound offers but a suggestion as to the point of amputation; it does not decide it.

The speed of the train is to be considered, first of all, in determining where one should amputate, and in treating this question two divisions are necessary: Firstly, a train under full headway, attaining a speed of over fifteen miles an hour; and, secondly, that of a train just starting, moving under five miles an hour. The injuries caused by these trains will be in proportion to their speed. Therefore, if the train which caused the injury was moving slowly, operations may be performed close to the line of wound, and, if necessary, skin that extends even within its borders may be utilized for flaps. On the other hand, if the train was at full speed, an incision must be chosen at some distance higher than the line of injury, apparently sacrificing tissue that is uninjured; for, with the greater momentum, these soft parts adjacent to the visible wounds have been so injured that, while not altered in their appearance, yet they are rendered incapable of continuing life. This change is in reality a local shock, causing instant death in the tissues. In every case a rapidly moving body acts with more violence than a corresponding one moving slowly. A rifle-ball whizzing by the cheek is followed by a greater destruction than a similar wound from a spent ball.

It matters not whether one or more cars have passed over the extremity, nor does the form of car have any influence in the case, as, weighing from ten to twenty tons each, either would be as disastrous in its results as the other, and the highest injury the only one to be taken into consideration. As has been decided by all surgeons, conservatism to the fullest extent of the law should be practiced in all injuries to the hand, and is so practiced with brilliant results, and why? These bumper accidents are caused by slow moving trains; rarely, if ever, do the parts slough to any degree.

To illustrate these views, permit me to relate a few typical cases.

On April 6, 1889, Mr. S. was struck by a passenger train at full speed. The right thigh was crushed, exposing the knee joint, and the left foot, opening the ankle joint. Amputation was performed above the knee in the right, into what seemed perfectly healthy tissue, and also in the middle third of the left leg. The patient rallied well. In forty-eight hours the thigh stump began to swell, tearing out the sutures, and discharging greatly. Gangrene rapidly supervened, and death occurred on the fourth day.

P. Beneche, aged ten, was injured September 14, 1888, by a train at full speed. The right leg was crushed, exposing the knee joint, with the muscles torn and mangled almost to the groin, and all filled with gravel. The left foot was gone. Amputation was performed on the right, close to the trochanter, taking some skin for flaps that was torn from the connective tissue, in order to avoid hip-joint amputation. The right leg was taken off at the upper third. After a day or two the thigh stump, in which tissue close to the injury was left, began to slough, and finally left the bone protruding. Only after long, diligent care did the parts finally heal over. In the left, where a high operation was done, the stump healed primarily.

In another case, E. Martin, aged thirteen, was injured by a train at half speed, passing over the right leg, crushing it above the ankle. Amputation at the middle third of the leg was followed by a good recovery.

Again, W. Johnson, aged nineteen, was injured by a slow train. The right arm was crushed to the elbow. Amputation just above the condyles of the humerus was followed by primary union.

As a typical example of the high operation, J. Martin, aged nineteen, was struck by a train at full speed, sustaining a crush of the right arm reaching above the elbow. Amputation at the shoulder joint resulted in primary union.

To add to these detailed cases, I will tabulate the following record of consecutive cases occurring during 1890, at the Troy Hospital, where I followed closely the principle of regarding the speed of the train in selecting the point of operation, and the results speak for themselves:

1. Sandusky, lower third, right thigh; recovery.
2. Farley, lower third, right thigh; middle third, left leg; death on fourth day; secondary hæmorrhage and shock.
3. Ryan, middle third, right leg; lower third, left leg; recovery.
4. Tracy, middle third, left thigh; middle third, right leg; recovery.
5. Goodrow, shoulder joint, right arm; recovery.
6. Welch, shoulder joint, right arm; recovery.
7. Reardon, lower third, left leg; recovery.

In deciding how far above the injury the amputation should be done there can not be any fixed rule. Each case must be considered by itself. The highest rent in the skin, or mangling of the tissue, should be left several inches below the selected point. Discolored skin should be looked upon with suspicion, and given a wide berth. Where the apparent injury reaches fully up to or above the middle third of the leg, the line of incision should be above the knee joint. Where, however, injuries reach high up on the thigh, it is better to take the chances of a result by granulation than to do a hip-joint amputation.

Other points to consider in railroad surgery are shock and when to amputate—whether in the primary, intermediate, or secondary period. Authorities disagree on this point. Wyeth believes in waiting even until threatening symptoms of pyæmia or gangrene appear. Agnew says the primary period is the best in which to operate, as the parts are less sensitive and the morale is best encountered.

In some cases the railroad surgeon does not see his patient for several hours after the injury, this time being lost in transporting the patient to a proper refuge. Here not only the shock of injury is encountered, but the effects of hæmorrhage, exposure, and rough handling are added. When the patient is found in a fair condition it is better to do at once such operation as is decided upon, for, in so doing, the shock of operation is modified somewhat by the already existing shock of injury, and to wait jeopardizes life by hæmorrhage and exhaustion.

In speaking of shock I do not refer to the moribund condition in which no one would think of operating, but to that condition of exhaustion and partial insensibility which follows upon a severe injury. When a patient is in a low condition it is best to hurriedly snip off the crushed parts, check the hæmorrhage, and, after thorough washing, apply an antiseptic dressing and wait for reaction to become quite well established before proceeding. To assist this there are various means of value. Elevation of the foot of the bed assists the return of the blood to the heart. Hypodermic injections of whisky, of nitroglycerin, of atropine, and of morphine are of great assistance. Rectal injections of warm soup, saline solutions, or defibrinated blood are also recommended. Where two or more extremities are to be amputated there is no objection to doing both operations at one time if possible. Begin with the worse one, so that, if necessary, the lesser injury, or part, will be the one in which to trust to delay.

In the technique of operations in railroad surgery there is not much to add to that of modern antiseptic work. As to the kind of flap to make in slow-train injuries, use such a one as will include the untorn skin to the best advantage. Where the high amputation is performed, each operator may make his individual choice. As railroad men work in oil, they are usually begrimed with smoke, and require vigorous scrubbing with ether to insure asepsis. Sterilized silk should be used as ligatures, and to hasten the operation continuous sutures are advisable. Drainage should be used until the first redressing. Anæsthetics are well borne, and for this purpose I prefer the mixture of chloroform, absolute alcohol, and ether, as employed at the Vienna General Hospital. I have used this mixture for several years in all surgical operations, both in hospital and private practice, and have not as yet met with any ill effects from its use. As but a few drachms are required in an ordinary amputation, it rarely causing vomiting, and its effects are quickly obtained, it has proved more valuable with me than any other anæsthetic ever has. In the after-treatment of these amputations such anodynes as are necessary to relieve pain and obtain sleep, perfect quietude, and a plentiful milk diet for the first few days, will be found to assist greatly in improving the patient.

We now come to the prognosis and mortality in railroad surgery. So far as the prognosis is concerned, this compares very favorably with the same operations in civil surgery. The employees are, as a rule, young men. By reason of their outdoor life they are rugged, and but little alcoholism is met with. In civilians injured upon trains the prognosis depends upon the lesion, their habits, and their age. Some older authorities used to think that every inch nearer the body an amputation was performed carried with it a corresponding increase in the rate of mortality. Any amputation from above the ankle to the middle of the thigh I believe carries with it an equal amount of danger, so far as the line itself is concerned. Certainly the rate of mortality in lower thigh amputations is no higher to-day than in those in the leg.

In conclusion, as so much depends on the condition of the injured when brought to the operating table, and as we have seen that the delay, septic danger, and mishandling of a dangling or crushed extremity, with the loss of blood and prostration, do so much toward producing this exhaustion, would it not be a humane and advisable expedient to place some means at hand to assist in warding off this influence?

I believe that this could be rendered feasible by having each "caboose" and baggage-car carry a packet containing splints and antiseptic dressings of a simple nature, and so labeled that any man of ordinary intelligence would be able to apply them to the injured. It would certainly render their condition more comfortable and the wounds less liable to become septic until the patient arrived at a place where the aid of a surgeon could be had.

1824 Fifth Avenue.

THERAPEUTIC EXPERIMENTS WITH NITROGEN MONOXIDE.*

By W. R. BIRDSALL, M.D.

Having been informed by two physicians whose opinions I value that they had obtained satisfactory results from the use of so-called nitrous oxide for the relief of depressive emotions in hypochondriacal and neurasthenic subjects, I was pleased to accept an offer from Mr. A. K. Johnston, representing the S. S. White Dental Manufacturing Company, to furnish me with this gas and the convenient apparatus which they manufacture for its storage and administration, the object being to determine its therapeutic value, not as an anæsthetic for surgical purposes, its great usefulness for this purpose being sufficiently well known, but for the relief of disease, when given by slow and prolonged inhalation short of the production of unconsciousness. Some favorable reports having been rendered, it became advisable to test its efficacy in a variety of pathological conditions in order to determine its action in different diseases. As Mr. Johnston seemed to desire an honest and critical investigation by the profession to ascertain whether nitrogen monoxide had therapeutic uses aside from its action as an anæsthetic, I felt entirely willing to join in the investigation, particularly as this drug is in no sense a secret compound, but a well known gas which the S. S. White Dental Manufacturing Company have put in a safe, portable, and convenient form for physicians' use.

I have recently sent Mr. Johnston my first report, in which I express my opinion, based on the results I have obtained. I report the cases here also, without waiting for further results, that others working in the same line may compare my observations with their own, as follows:

It is exceedingly difficult to determine the real therapeutic value of any agent or substance used as a remedy, and it is particularly difficult to determine whether any improvement which follows the administration of an agent should be attributed to it or to other causes. When the morbid process is chronic, the varying factors which modify it can rarely be discriminated with accuracy. Observing the effect of a therapeutic agent on the general course of a given disease is, as a rule, an uncertain method, and we can usually arrive at more positive data by noting the effect it produces on separate normal functions and their abnormal manifestations. I thought it advisable, therefore, to limit my experiments with nitrogen monoxide at first to its use in relieving certain symptoms or morbid states for which we seek immediate relief, such as pain, spasm, and some morbid mental states, rather than to watch its effects upon the general course of a chronic bronchitis or phthisis or other chronic affection. I have used it in the following cases:

1. *Migraine.*—Male; morning attack of an hour's duration. Gave ten bagfuls of gas during fifteen minutes. Slight tingling of extremities and drowsiness experienced; partial relief of pain. Pain returned five minutes after inhalation, and was worse than before, accompanied by slight nausea.

2. *Migraine.*—Male; afternoon attack with slight nausea. Took eight bagfuls of gas during twelve minutes. No relief.

3. *Persistent Headache* (supposed to be due to anæmia).—Female, aged eighteen; four trials on different days; five to fifteen bagfuls during fifteen or twenty minutes; no temporary relief; no subsequent effects.

4. Patient came to office suffering with the muscular pain of *la grippe*. Gave ten bagfuls of gas during fifteen minutes, with slight relief during inhalation, but pain returned within ten minutes.

5. *Paralysis Agitans.*—Gave gas to see if it would temporarily diminish the tremor. Ten bagfuls within ten minutes; no effect on tremor or pulse-rate.

6. *Asthma, with Chronic Bronchitis.*—Female, aged seventeen. This case was observed over a period of four months after the gas treatment was commenced. Gas was given twenty times, at intervals of a few days, from three to twenty bagfuls during twenty minutes. Many times the spasmodic asthmatic respiration was marked at the time of inhalation, but no diminution could be observed in these attacks during inhalation, or any change noted on auscultation. Sometimes patient would say that she thought she could breathe more freely afterward, but usually her reply was that it had no effect except to make her feel a little dizzy. After one inhalation she returned home, and within an hour had a severe attack of asthma. Subsequently burning stramonium leaves relieved these attacks considerably. On three or four occasions the effects of the gas were pushed to extreme drowsiness or to loss of consciousness, but still without effect on the sonorous râles and hardly any appreciable effect upon cardiac action. On one of these occasions the ophthalmoscope was used while patient was becoming unconscious; slight increase in retinal vascularity was observed just before consciousness was lost.

7. *Insomnia.*—Female, aged twenty; slight gastro-intestinal catarrh and morbid fear of insomnia; could not sleep on retiring, and would awake in the night, remaining awake for hours.

---

* Read before the New York Neurological Society, January 6, 1891.

Tried gas for eight days in succession during afternoon hours, ten to twenty, later thirty to forty, bagfuls during half an hour, almost to unconsciousness. The first night she slept well; second night was as wakeful as ever, after which she was unable to obtain any benefit from the gas. This patient had slept well for a few nights under sulphonal, and subsequently, under a placebo which she believed to be a hypnotic, the insomnia ceased.

8. *Insomnia and Slight Melancholia, with Organic Cardiac Disease.*—Gas was administered seven times, at intervals of two or three days. First gave nine bagfuls of oxygen with twenty per cent. of nitrogen monoxide during twenty minutes; observed no immediate effects, but it was reported that she was somewhat restless after it, yet slept better for two nights. After three bagfuls of nitrogen monoxide, was excitable; seemed a little more active after it, but was restless the following night. Subsequently the inhalations did not seem to relieve the insomnia or change the depressive character of her ideas, and the treatment was discontinued at the request of the patient and her friends. There was no appreciable effect on the heart's action.

9. *Opium Habit.*—Male, aged fifty. Had taken one grain of morphine three times a day for two or three years, reduced from much larger amounts taken for many years. Gas was given instead of mid-day dose to see if it would replace morphine. Gave four bagfuls during fifteen minutes; patient became more talkative, and observed slight vertigo. Next day he reported that it gave him strength, as the morphine did, but about an hour after eating he had discomfort at stomach from food, such as he usually experienced when he had not taken his morphine. Gave four bagfuls during fifteen minutes; slight vertigo observed. Reported not as comfortable after-effects as on the first occasion. Patient thinks it helps some, but does not replace the morphine. Did not wish to try it further, though he was desirous of being cured of the habit, and subsequently underwent the withdrawal treatment in an institution, but relapsed.

10. *Hypochondriasis.*—Female, aged twenty-four. Sexual excesses; gave gas to note effect upon depressive ideas. I thought it intensified her emotion and ideas, but did not change their depressive character.

11. *Hypochondriasis.*—Male. Sexual excesses; temporary exhilaration during inhalation, but depressive ideas as strong as ever a few minutes after.

12. *Neurasthenia* (lithæmic variety).—No effect beyond a slight degree of "quiet comfort" during inhalation.

13. *Depressive Ideas after an Alcoholic Debauch* (*Katzenjammer*).—Tendency to intensification of despondent ideas rather than diminution, even during inhalation.

14. A case of phthisis, female, tried the gas once for cough, but failed to return for treatment or to report.

15. *Chronic Bronchitis.*—Male. Three morning inhalations, ten bagfuls during twenty minutes; no appreciable effect on cough.

16. *Hysteria.*—Male. Patient suffering with pain in right arm and shoulder, simulating neuralgia, but probably mental and due to "auto-suggestion." Gave fifteen bagfuls of gas during twenty minutes, with temporary relief at first, but finally terminating in a violent paroxysm of pain, during which he walked the floor in great distress and became very emotional; this quickly subsided, leaving him with the usual degree of discomfort. A good example of intensification of painful mental impressions during the stage of exhilaration from gas.

I have tried the effects of the gas upon myself on several occasions. Here is a note: Took ten bagfuls of mixed gas (twenty per cent. nitrogen monoxide) during five minutes; felt slight tingling of extremities, no loss of consciousness, general exhilaration, which passed off in fifteen minutes; felt slight occipital headache for a few seconds, but well afterward. No effect on a slight cough that I had at the time. Took two bagfuls of nitrogen monoxide in quick succession; felt in a few seconds a "far-away sensation" disagreeable in character; was conscious of a rhythmical hammering of the heart, though the pulse was not much stronger than usual; did not lose consciousness, but felt as if about to do so, yet it was not a sleepy sensation; afterward slight tingling of the extremities occurred, like the effects of coca. Five minutes later took another bagful of gas, and in five minutes more another; slight increase of exhilaration, which passed away entirely in fifteen minutes; no effect on sleep. Next morning had an empty feeling in the cranium, as after a dose of absinthe, which passed off in a few hours; no headache.

I have taken as many as sixty bagfuls in succession without observing anything but slight temporary depressive effects following inhalation and sometimes slight vertigo and nausea; no after-exhilaration. Usually the sensation was like that following confinement for a long time in a badly ventilated room, at other times like the fatigue after prolonged mental work, or still more like the sensations which I have experienced at high altitudes. These are the only cases in which I have tried it.

Should it be said that my cases are too few to warrant final conclusions respecting the therapeutic action of nitrogen monoxide, I would reply that, from an empirical standpoint, this might be true, and still the observations made upon them may have established facts respecting the physiological action of the agent which sufficiently explain its failure in these cases and warrant us in concluding that it is likely to prove inefficacious in allied conditions for a similar reason.

The chief cause of the failure, in my opinion, is the transient effect of the gas due to its rapid elimination. During the administration, if we leave too long an interval between the inhalations, the most intense effects will become so reduced that a considerable quantity of gas must be again taken to bring up the effects to the former degree, while slow but continuous inhalation will hold the effects with a very small amount of gas. The transient effect of the gas is one reason why it is valuable as an anæsthetic, the after-effects being usually slight, but for just this reason its therapeutic powers are lessened. The extensive series of experiments published by the Odontological Society of Great Britain show that the average time required for the production of anæsthesia in males, when its use is pushed, as for anæsthesia, is only eighty-one seconds, and the time from the beginning of anæsthesia to recovery of consciousness but one hundred and fifteen seconds, showing the rapidity with which this gas is eliminated. How rapidly produced, and how profound, yet how transient are its effects! To seek an explanation for the evanescent effect of this gas we must consider the theories of its physiological action. I will not attempt to thoroughly review the literature upon this substance, which dates back to the time of Sir Humphry Davy. Most of the articles relate to its chemistry, manufacture, and uses as an anæsthetic, a number to its physiological action, and very few to its therapeutical effects. Certain papers on its physiological action I will briefly refer to.

In 1873, Jolyet and Blanche (*Arch. de phys. norm. et path.*, 1873, 364) reached the conclusion suggested by Davy—that nitrous oxide is a non-respirable gas, that it does not support life, and is not a true anæsthetic, but acts by depriving the system of oxygen while it is being inhaled, producing a state of asphyxia. This is the conclusion which Hermann had also reached in 1864–'65, and is the view which has extensively prevailed among physiologists. Though Gollstein, in 1878 (*Arch. f. d. gesammt. Physiol.*, Bonn, 1878, xvii, s. 331), published his experiments and theories, in which some of Hermann's methods and conclusions were called in question, chiefly concerning the point as to whether nitrous oxide was all eliminated as nitrous oxide, or was in part decomposed in the system, he left the question still unsettled. The view that nitrous oxide parts with its oxygen to the blood has been popular with some, but remains unsupported by sufficient proof. Jolyet and Blanche found, on the contrary, that seeds would not germinate in an atmosphere of this gas; but when even a small amount of oxygen was mixed with it, germination went on, leaving the inference that this gas did not part with its oxygen to plants. Animals also died, when restricted to the gas for respiration, in a manner which they interpreted as favorable to the above-mentioned views. In 1879, Charles A. MacMunn (*Dublin Jour. of Med. Sci.*, 1879, ii, p. 210) offered a spectroscopic explanation of the action of nitrous oxide. Referring to the fact that oxidized hæmoglobin (oxyhæmoglobin) gives a two-banded spectrum and deoxidized hæmoglobin a one-banded spectrum, he states that, immediately after the death of an animal by nitrous oxide, the venous and arterial blood all over the body gives the one-banded spectrum; but, on exposure of the blood to air, the spectrum changed to that of oxyhæmoglobin, which was capable of being reduced, "showing plainly," he says, "that the nitrous oxide had not entered into combination with the hæmoglobin such as carbonic oxide and nitrous oxide form with it, for reducing agents fail to displace these gases from their combination with hæmoglobin." He mentions that he is not ignorant of the fact that nitrous oxide reduces hæmoglobin in solution. If this experiment and the conclusions are without error, it is strongly corroborative of the view that nitrous oxide is not decomposed in the system, and does not form combinations with the protoplasm of tissues. Strictly speaking, it only shows that it does not combine with hæmoglobin, and the possibility remains that the protoplasm of the tissues—neuro-protoplasm, for example—may form some combination with it. If so, its transitory effects would indicate that it must be an exceedingly unstable combination, whereas, on chemical grounds, we should expect it to be a stable one. But let me refer, finally, to the recent experimental work of Wood and Cerna. Dr. H. C. Wood, in his Berlin address (Aug., 1890, Int. Congr.; *Med. News.*, Phila., 1890, lvii, p. 121) on Anæsthesia, states as his conclusion that "nitrous oxide produces loss of consciousness, not by virtue of any inherent properties, but simply by shutting off from the nerve centers the supply of oxygen." Thus the latest researches lead to the same conclusions as the earliest. The peculiar and specific effects which nitrogen monoxide produces do not seem to be the effect of simple asphyxia, and this has been the chief ground for the suspicion that the above-mentioned theory was incorrect. Wood appears satisfied with the following explanation: "It has been asserted," he says, "that changes in the circulation produced by the inhalation of nitrous oxide are essentially different from those of mechanical asphyxia, and that therefore nitrous oxide does not act as an asphyxiant. It must be borne in mind, however, that the phenomena of mechanical asphyxia are largely due to the presence of an excess of carbonic acid in the blood, while in the asphyxia produced by nitrous oxide the phenomena present are simply the outcome of a lack of oxygen."

Brunton (*Pharmacology, etc.*) states that "pure nitrogen has a similar anæsthetic power."

Nitrogen monoxide, then, would seem to be an agent which, during its inhalation, interferes by displacement with the normal supply of oxygen to the tissues, and, as the cortical functions are the most readily disturbed by imperfect oxygenation, the first and most striking effect is shown by disturbed cerebral action; but its rapid elimination prevents prolonged effects after the supply is cut off, these effects being the direct or indirect result of deficient oxygenation. That its first effects are on the higher cerebral functions is shown by Paul Bert's experiments (*Compt. rend. de la soc. de biolog.*, 1878–1880, 6, s. v. 233), who writes "that during insensibility the respiration continues with perfect calmness, the circulation retains its normal rhythm, the amplitude is not changed. A manometer shows no appreciable variation in tension, but all sensory excitation increases cardiac pressure. Pneumogastric excitation arrests the heart and respiration. In a word, all the reflex movements of the sympathetic system which were tested were found preserved." It should be stated, however, that Wood and Cerna obtained different results respecting arterial pressure, possibly accounted for by the degree to which asphyxiation was pushed. Wood states that respiration fails first, while the heart remains active or is even increased in action. There is increase in arterial pressure, with great variability in rise and fall, not only in different inhalations but at different periods of the same inhalation. Sometimes the rise is extraordinary and abrupt, suggesting a possible explanation (through disturbed capillary circulation) of the temporary glycosuria which it is said has followed inhalation of this gas in man. He found that faradaic irritation of the sciatic did not cause increased arterial pressure.

If the physiologists are correct, the long-continued and repeated inhalations of the gas can only be of service when we wish to deprive the system of oxygen. What a reversal of our ideas must follow our acceptance of the usefulness of this method in a disease like phthisis, and in chronic bronchial affections, for which it has been recommended! Fortunately, the period of inhalation is not long, and the direct effects cease on the cessation of inhalation, but to the extent of the time employed, the process must be proportionally injurious in all wasting diseases, if our ideas are correct that these states require increased oxygenation. In lung cases we should not forget that increased lung expansion may be a factor accounting for the improvement that follows, but still more important is the element of suggestion. The inhalation of a gas that produces marked sensations which are sometimes of a startling character may prove a powerful agent for suggestion, particularly when coupled with verbal suggestion by the physician, and I am inclined to attribute most of the beneficial effects obtained with hypochondriacal and hysterical patients to this element.

Yet we have had a few strong advocates of the use of this gas in disease. Ziegler's extensive series of articles, published in 1864 (*Med. and Surg. Rep.*, Phila.), should be mentioned, if only to cite the work of an enthusiast on this subject. Starting on the assumption and belief that nitrogen monoxide is decomposed in the system, parting with its oxygen and nitrogen to the tissues and acting as an invigorating agent to the system, he builds up a series of inferences by which this agent is made to appear beneficial in the relief of nearly all forms of disease. He is confident that he has had clinical proof of his statements, but gives no details of cases. He writes of this gas as "supplying essential matter for organization, promoting general, molecular, cell nutrition, reproduction and dynamic operations." It is "hygienic, therapeutic, revivifying, antidotal, and anæsthetic. . . . A permanent chemico-organic, arterial, nervous, cerebral, and general stimulant; a superior hæmatic, neurotic, nutrient tonic." Benjamin Lee (*Med. Record*, No. 17, 1880), upon the strength of Ziegler's statement, tried the gas in three cases—one, that of a hypochondriacal male, who was benefited, but finally relapsed, and two of females, one with uterine disease and asthma, the other with tuberculosis and despondency; both were permanently relieved, but he admits that the improvement could not have been wholly due to the gas, as massage and localized movements were employed with all the patients. No details as to administration are given. The doctor was in the habit of taking a bagful of the gas to bed with him (quantity not stated), and says that it never failed to procure for him a very delightful and refreshing night's sleep. In the *Medical Record* of June 31, 1880, Dr. John Ellis Blake and Dr. Allan McLane Hamilton published a short article on the therapeutic effects of nitrous-oxide gas, from which I quote as follows: "The administration of the gas is for its stimulating effects, and, taken with a greater or less proportion of air, it produces a species of excitation with very little subsequent reaction, the primary excitement being akin to that which commonly follows the use of champagne, or any sparkling wine. There is a feeling of lightness and buoyancy, the individual becomes loquacious, while the heart's action is increased, and there is momentary dizziness. . . . For the rest of the day he feels decidedly brighter and more active. If he be despondent before the gas is given, or suffers from an attack of the blues, the effect is made more marked." Again they say: "It virtually takes the place of alcoholic stimulants, without depression. . . . As a remedy for insomnia it has no equal. . . . It does good in hysteria, or the form of nervous derangement bordering on melancholia. . . . Appetite, sleep, and disposition to take exercise are all improved." They recommend daily inhalations of not less than twenty gallons, well diluted by inhalations of air.

Again, in the *New York Medical Journal*, June 28, 1888, Dr. Hamilton writes: "For ten years or more I have studied the effect of nitrous oxide, besides having used it in a great number of cases (having administered it several thousand times). I have come to regard it as very valuable in the treatment of insomnia and allied states, but as a psychopathic agent of greatest value in hysteria and certain forms of insanity." In a pamphlet issued by the S. S. White Dental Manufacturing Co., Dr. A. E. M. Purdy and Dr. W. L. Fleming are referred to as having used the gas for therapeutic purposes; and a case of tuberculosis is reported by Dr. C. W. Lareson, of New Jersey, in which marked improvement in appetite and weight occurred, with absence of fever, under five-gallon inhalations daily. The fever returned when the gas was discontinued, and again disappeared on resuming it. In the same pamphlet are published, by Dr. James R. Burnett, of Newark, five cases (of different diseases) favorably treated with the gas. That he is, as he says, "an enthusiastic believer in nitrous oxide," is shown by his expressed opinion that "this treatment will supersede in part, if not wholly, the present generally nauseating stomach medication." I have placed these views of others who have had favorable results beside my own unfavorable experiments and conclusions, and submit them to the judgment of those who continue the investigation of this subject. My own view, based on the physiological and clinical data which I have been able to collect up to the present time, is that the uses of nitrogen monoxide for medical and surgical purposes are restricted to its effects as an anæsthetic and as a placebo.

APHASIA.*

By E. W. HOLMES, A.B., M.D.,

ASSISTANT DEMONSTRATOR OF ANATOMY, LECTURER ON SURGICAL ANATOMY, AND SURGEON IN THE SURGICAL DISPENSARY, UNIVERSITY OF PENNSYLVANIA.

It is many years since Broca first promulgated the theory of a speech center, which, though received with skepticism, is now firmly established. The views of Brown-Séquard, while entitled to respectful consideration, lose the force of general acceptance, and upon him is thus thrown the *onus probandi*.

The term aphasia has been extended to a variety of forms of defective expression due to cerebral lesions, but we use it in its broadest sense to include Broca or motor aphasia, amnesia, amnesia verbalis, inco-ordinate amnesia, amnesic aphasia, aphemia, apraxia, word-deafness, word-blindness, and the great variety of names employed by authors according to individual fancy.

I have thought it possibly useful and interesting to take up our subject first in its theoretical bearings and educe some logical arrangement and classification which might lead us not only to a clearer understanding, but perhaps give us a common basis for clinical examination and record. The most natural would be a consideration of the mental phenomena involved; but we must *pre*suppose a capacity for knowledge, volition, recollection, and sense perception.

---

* Read before the D. Hayes Agnew Surgical Society.

In the mere reception of the impulse of special or common sensation the brain is passive, but, in recognizing it as a sensation, the mind enters upon a more complex process. A step higher is the recognition of this impulse as connected with and caused by something. This something is the external object, and the corresponding mentality is the internal object or image. This is sense perception; not merely a mechanical cell irritation, but a true intellectual process, and the product a mental product, object, or image—the idea. This mental image may be the result of the impression of a single sense, but oftener is composite, made up of imprints from all the nerves of special and common sensation and the muscular sense. Thus the image of the object orange is from sight as to its color; touch, its hardness, size, and form; smell, its odor; taste, its sweetness; and hearing, as to its want of resonance. The image thus formed becomes *the idea*, *orange*, becomes indeed our own, which we can recall at will without renewal of the primary excitations. Not only is the will thus able to call up the idea, but it can also shut off extraneous impressions and so strengthen the prevailing impression, as in the skilled auscultator's indifference to the rattling of the cable chain. This is concentration or attention. The image is the summation of the external irritation, and the impressions are so inseparably rolled together that the repetition of any one is sufficient to unfold all the rest; so for the reproduction of the complete image, only stimulus from a single source may be necessary. This law of association is most important in our future diagnosis, and it is time and labor saving, for it substitutes the use of one for the exercise of all the senses. This firm impress of the image, by reason of which it can be recalled, which we denominate memory, is, after all, only cell impression, and depends upon the novelty, force, and depth, as well as upon the frequent repetition of the original impulse.

We hardly think it necessary to discriminate *in kind* between ideas as derived from words heard and those obtained from other senses—such as sight. Mentally they are of the same nature, whatever the source. The recollection of a word seen or heard is merely the recalling an image obtained from the impression upon certain brain cells through the medium of one nerve, and is in its nature no different from the percept dependent thus upon any other one or all of the special senses.

Our methods of expression are twofold—(1) speech, (2) writing.

Although the expression of ideas by spoken and that by written symbols are closely akin, yet, for our purpose, set them widely apart and readily bridge a chasm by assuming an *innate* capacity. It is evident the representation of any idea or object by a given sound, symbol, letter, or combination of letters is in an individual case arbitrary, as it makes no difference to the infant whether the character is I, je, or ego, he learning from those around him to apply these symbols to external or to psychical objects (ideas), storing them up in memory in certain sharply defined areas, under the influence of a frequent repetition and concentration of attention. Similarly of writing. Thus are memory pictures impressed upon the brain of conventional sounds and visual symbols for language spoken or written. We then note that, granted the capacity, the transference of ideas to spoken or written symbols is (almost) a mechanical process analogous to the recognition and transference of the external object into the internal object or idea. We find both of these are kindred forms of mental action, and are alike largely dependent upon sense perception and repetition for their development—so much so that, always granting the primary aptitude, we might assign the subsequent revival to a low scale of cerebral action as almost automatism.

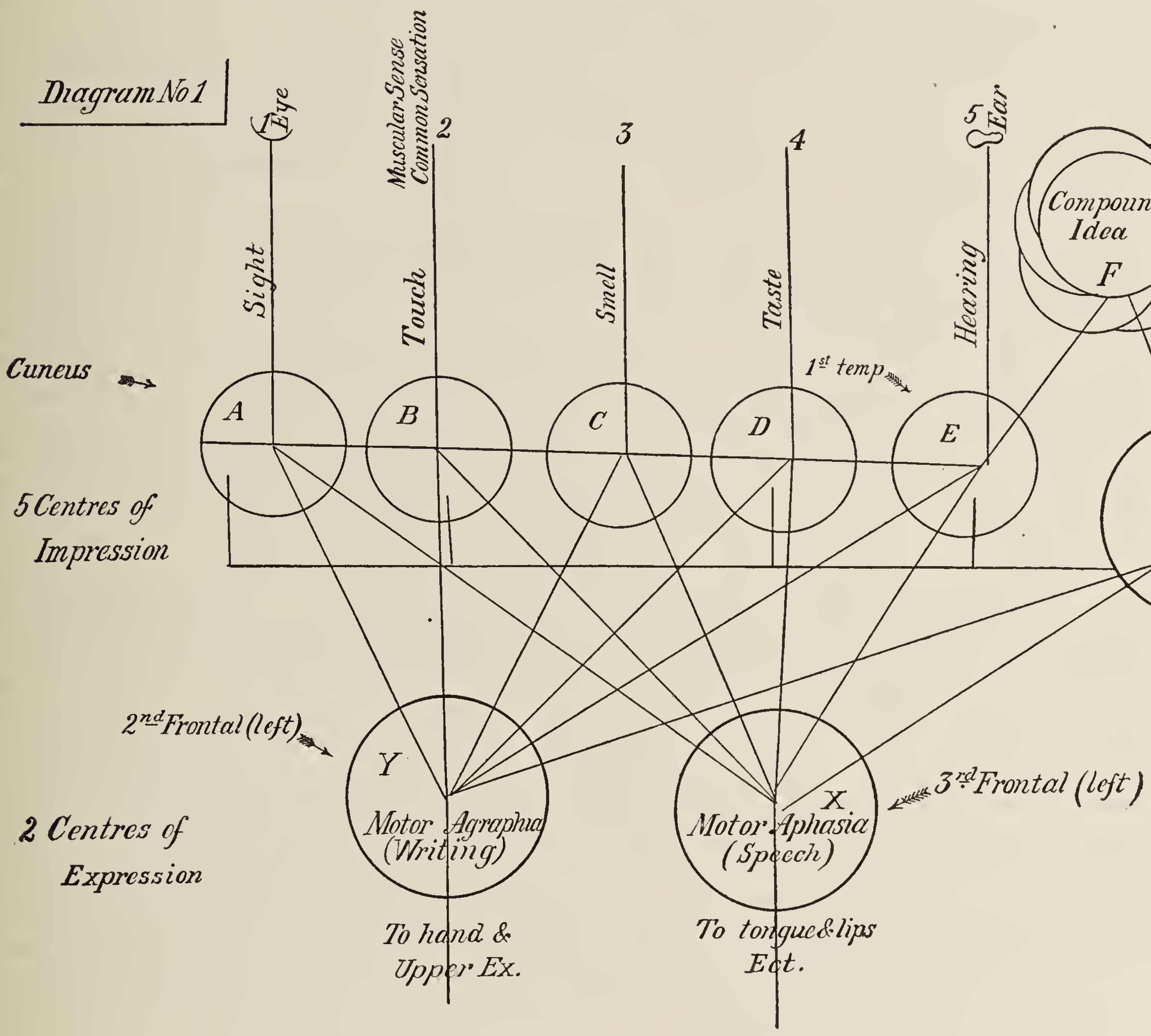
Consciousness is "the power by which the soul knows its own acts and states. It not only knows, but it knows that it knows" (Porter). When consciousness is almost wholly in abeyance, the acts of the mind then partake of the character of reflex action, and the external object is at once transferred to the idea, and thus (may be) *at once* translated into spoken or written symbol, as the uttered name which quickly springs to the lips at the sight of an old friend long absent. It would seem as if by overwhelming impulse or by constant practice, from entering impress to emergent symbol, direct tracts were laid, as it were, without the intervention of will or conscious cerebration. These centers for expression of internal objects (ideas) into written or spoken symbols are (1) under control of the will, (2) are influenced by the centers for transference of external objects into ideas, and, lastly, (3) under strong impulse or continued practice, the two may act together automatically without apparent interposition of will or consciousness.

If it is desired to symbolize the idea, the mind revives the concept, and thus stimulates the centers of memory for expression, which also are energized by the will; these influence the purely motor areas (which are distinct but near by), and the symbol is spoken or written.

I have endeavored to express these facts diagrammatically (Diagram 1).

Numbers 1 to 5 indicate the lines by which impressions are transmitted from the peripheral apparatus (eye, ear) to A—E, the 5 portions of the brain where the idea of the external object is stored up, which may be simple A to E—*i. e.*, formed by impress from a single sense or compound, F, by a congeries of all the senses. The idea may be recalled either by the will (G to E or G to F), or by a single impulse (1 or 2, etc.), or it may require all (1 to 5). The centers of expression, X or Y, may be energized either by the will (G to A, etc., or G to F, and thence to X or Y), or by an impress from without (through A, E, or F). At times an impression may pass along 5, and, passing around E, energize X or Y (unconscious, meaningless expression or echo); and so of the visual tract.

Having, then, our basis for classification, we can quickly determine our varieties of aphasia. (1) An obliteration of the center for symbolizing ideas by spoken words would be motor aphasia. Supposing a hæmorrhage annihilates X (Diagram 1), the patient can hear and recognize the meanings of words, can tell objects by sight, smell, and taste, can call up to himself the mental image at will, has reason, judgment, in rare instances can write, can move his lips and tongue, perhaps make musical sounds, and yet can not express himself in spoken words. This is motor aphasia pure and simple, rarely found alone, still more rarely because a systematic method of examination has not been followed. Once again, an obliteration of the center (Y) for symbolizing an idea in written characters is motor agraphia. The patient can see and comprehend written words and hear and understand them spoken; there is no paralysis of hand or arm; he can express himself understandingly in spoken words, but can not in writing. Motor aphasia and motor agraphia are oftener associated, though they may exist separately. These are the two discrete lesions of the centers of expression. They (the centers) depend for their development upon the foci of impression, grow with these *pari passu*, are greatly influenced by stimulus from them, and hence are often associated with them in disease.



The lesions of the centers of impression are called *amnesia*, under a mistaken notion that they alone are due to a loss of memory. I have endeavored to maintain that motor aphasia and agraphia were also a defect in *memory* of the arbitrary tokens of language. The one is then a counterpart of the other—the motor aphasia a loss in the representative power of symbolizing the idea, the sensory aphasia (amnesia) a loss in the representative power of idealizing the symbol.

There should be really as many forms of sensory aphasia as there are special senses. But no pure lesions of sensory aphasia of taste, smell, or touch have been as yet distinguished. It would be interesting in case of a brain lesion of a man born blind to test this, on account of development in these of tactile sense, and perhaps, if we made trial in like cases with others, as the connoisseurs of wine, we might find instances of sensory aphasia in regard to smell and taste. For the most part, sight and hearing are the only two clearly separated; so our two main divisions of the *impressive* lesions are auditory sensory aphasia and visual sensory aphasia. Of each of these there are three varieties. If we have clearly stated our thesis, these centers may be energized (Diagram 1) (1) by the will (G to F, etc.), (2) by one or all of the original impulses narrowed by our present knowledge to *two*, sight and hearing (1 to A : : 5 to E). If, then, the sense-perception center is obliterated (A, E, or F), no intellectual image can be formed there, either voluntarily or from without; then we have complete auditory sensory aphasia—or of sight, complete visual sensory aphasia.

Sometimes it is found that, though a patient can recall a word and its image when spoken to him or seen by him in print $\left(\frac{1 \text{ to } A}{5 \text{ to } E}\right)$, he can not spontaneously. This is voluntary auditory sensory aphasia; or of sight, voluntary visual sensory aphasia. Or perhaps a patient may be able to think—that is, voluntarily call up the image—yet the external object when seen, or the word when uttered by another, conveys no meaning to him; this is primary auditory sensory aphasia or primary visual sensory aphasia. If each of the senses were affected we might have, theoretically, complete olfactory sensory aphasia, primary olfactory sensory aphasia, or voluntary olfactory sensory aphasia, according as the ideas can or can not be aroused by the will or by external excitation; and so of gustatory and tactile impressions. Now, supposing, in addition to the sensory lesions, there was a default in expression by writing or speaking; we then have a combination of disorders of both expressive and *im*pressive areas which we indicate thus diagrammatically:

Centers of Impression.	*Centers of Expression.*
(1) Primary auditory sensory aphasia. (2) Voluntary auditory sensory aphasia. (3) Complete auditory sensory aphasia.	With motor aphasia. With motor agraphia or both.
(1) Primary visual sensory aphasia. (2) Voluntary visual sensory aphasia. (3) Complete visual sensory aphasia.	With motor aphasia. With motor agraphia or both.

Any one of which may exist separately or in combination with any one other or more than one of the others.

PARAPHASIA. PARAGRAPHIA.

DIAGRAM 2.

In certain lesions of the impressive centers an impulse (as of 5) does not energize its appropriate region (as E), but, passing around it, rouses the expressive region (X), so that in such a case a word spoken is repeated as an echo, but is meaningless to the patient.

The terms paragraphia and paraphasia are sometimes used to express types of inco-ordination resulting in the wrong use of words in writing or speaking, as when a man asked what he wished for dinner, replied: "Cut my leg off" (Stillé). This is due to a lack of power of concentration and inability to direct the force of will upon any one or all of the centers of expression or of impression. (Illustrative cases from writings of Jackson, Trousseau, Osborne, Starr, Hertz, Macewen, Ranney, and others are omitted.)

We have sharply distinguished the centers of impression from those of expression both in text and diagram, and we are justified, for sensory and motor aphasia are clinically distinct, the former being closely affiliated with the nerves of special sense in the encephalic mass, and the latter with the motor areas.

Visual sensory aphasia is found to coincide with lesions of the occipital lobe and angular gyrus.

Auditory sensory aphasia, with the posterior part of first temporal and supramarginal of left side.

Motor agraphia is associated with disease of posterior part of second frontal, and motor aphasia with third left frontal and island of Reil.

Paraphasia and paragraphia possibly have some relation to fibers passing deeper, which join the temporal and occipital to the frontal lobes.

By the use of our diagram (No. 1) we can see at a glance the lines of intercommunication of these centers with each other, and can trace out the effect of the ablation of any one of them. In making a diagnosis we should keep clearly in mind this intercommunication, and, by testing our patient in some such way along the tracts indicated and under the various phases noticed, we may perhaps come to use some uniform method of examination and registration which will lead us to a clearer elucidation of this important subject.

THE RESULTS OF AN AUTOPSY

IN A CASE OF GENERAL TUBERCULOSIS TREATED WITH KOCH'S "LYMPH."

By HENRY S. STEARNS, M. D.

MARTIN D., thirty-eight years old, a wire-maker, gave no family history of tubercular disease, and, with the exception of an attack of acute rheumatism a few years ago and an occasional bronchitis, from which he always quickly recovered, had enjoyed exceptionally good health until about the middle of last October, when a cough made its appearance and rapidly grew worse until November 23d, when he had lost so much strength and weight and his dyspnœa had become so urgent that he entered Bellevue Hospital. From this time until December 23d he lost ground so rapidly that, as his family desired it, in spite of the case being an unfavorable one, it was determined to administer Koch's "lymph" in small doses. At this time a physical examination of his chest showed diminished expansion and marked dullness at both apices, most extensive on the left side. Large and small râles were heard in the infraclavicular regions on both sides. Behind, in the right scapular region, there were fine crackling râles with crepitating friction sounds, and in the left there was tubercular breathing with large and fine crackling râles. His weight was one hundred and forty-two pounds and a half. The respirations were 43 to the minute. The temperature ranged from normal to 102° F. The amount of sputum was one ounce a day, and under the microscope it showed from forty to forty-five tubercle bacilli to the field.

For the first two weeks the injections were of ·00025 c. c. daily, and at the end of this time his condition was so much improved that he was thereafter given ·0005 c. c. daily. His most urgent symptom, the dyspnœa, was now partially relieved, and the night-sweats, temperature, and strength were improved. This advance kept up ten days longer, or until January 16th, there being, however, no improvement in the physical signs. On January 20th the sputum became tinged with blood, and this was followed by his spitting out two ounces of pure blood; the temperature rose, ranging between 102° and 104°, with a feeble and rapid pulse, and the respirations from 40 to 48 to the minute. A microscopical examination of the sputum showed the tubercle bacilli to be in about the same numbers as at the beginning of the treatment. He had lost six pounds and a half in weight, and a physical examination of his chest showed a very general infiltration of both lungs, with softening and excavation at the left apex.

The injections were at once stopped, but the patient rapidly failed, and died on January 29th.

Autopsy, fourteen hours after death.—*Brain:* There were opaque patches on the pia mater, with considerable congestion and serous exudation, also a number of small gray tubercles in the left fissure of Sylvius.

Heart: Valves normal, slight chronic interstitial myocarditis. Weight, eleven ounces. The aorta showed a few atheromatous patches.

Lungs: Both lungs were studded throughout with small gray tubercles, there apparently not being a cubic centimetre in either organ free from the neoplasms. The right lung had no pleuritic adhesions, but the left was firmly bound down at its apex. In the left apex was found the only cavity. It was five centimetres in diameter and filled with a thick, blood-stained fluid and small masses of cheesy material. Its walls were quite thick and composed of an inner layer of dense connective tissue containing patches of round cells, and an outer layer of an open meshwork of fibrous material intensely congested and containing many large blood-vessels. The neighboring alveoli contained an exudation of epithelial cells. Microscopical examination of other parts of the lungs showed vast numbers of small tubercles with well-marked cheesy centers, and the neighboring alveoli peculiarly free from inflammatory products. There was no appearance anywhere of the tubercles becoming encapsulated with a connective-tissue growth.

Liver: Weight, four pounds and three quarters; very dark in color and microscopically showing slight diffuse cirrhosis and a very few scattered miliary tubercles with well-formed giant-cells.

Spleen: Normal in size, soft, and studded so thickly with miliary tubercles that there was only a small amount of parenchyma remaining.

Kidneys: Weight of each, nine ounces. Left one normal. The right one had an area 2·5 centimetres in diameter, extending from the capsule well into the medullary portion, and thickly filled with tubercles.

Intestines: Ten tubercular ulcers, all in early stages, were found in the small intestines, with two intensely congested areas in the ascending colon.

Stomach: The mucous membrane was intensely congested, with submucous hæmorrhages in places, but no tubercles were found.

Retroperitoneal Glands: These, as far as they were examined microscopically, were tubercular, the tubercles here being very large and having large cheesy centers, and a very distinct area of round-cell infiltration outside of them. These tubercles and those in the lungs were the only ones having well-marked cheesy centers, leading to the belief that the growths in the other organs were recent and rapidly advancing.

At no time during the treatment was there any suspicion of cerebral or abdominal tuberculosis. The patient received in all fourteen injections of ·00025 c. c. each and ten of ·0005 c. c. each.

Naturally, the most interesting feature of the case and the one requiring a most decided answer is, Was the very general tubercular infection outside the lungs the result of the injection of Koch's "lymph"? and I report this case in the hope of seeing others report in full the history and lesions found at the post-mortems of any patients succumbing during treatment with Koch's "lymph," for the question can only be reliably answered by collating the results of *all* the autopsies made in these cases.

21 East Forty-fourth Street.

The Harlem Medical Association.—The special order for the last meeting, on Wednesday, the 4th inst., was a paper on Fractures at the Elbow Joint, by Dr. T. H. Manley (to be discussed by Dr. Lewis A. Stimson, Dr. Charles A. Powers, Dr. Robert T. Morris, Dr. Timothy J. McGillicuddy, Dr. John Shrady, and Dr. Charles B. White).

AUTOMATIC MENSTRUAL GANGLIA.

A NEW THEORY OF MENSTRUATION.

By F. B. Robinson, B. S., M. D.,
TOLEDO, OHIO,
PROFESSOR OF ANATOMY AND SURGERY IN TOLEDO MEDICAL COLLEGE.

(*Concluded from page 97.*)

The theory of ganglionic regulation of menstruation—that is, the initiation and execution of a menstrual cycle by nervous ganglionic centers located along the great highways of nutrition (the blood-vessels) and in the substance of the uterus and *tubes*—is, so far as I know, a new one. This view of the matter came to me from several years of observation in large slaughter houses, and still more forcibly from the wonderful manifestations seen in the peculiar movements of the heart and intestines by a goodly number of vivisections on dogs. If any man will watch for a single half-hour the "invagination of death" on a dog a half-hour after the dog's death, knowledge will occur to him which no book can convey. Considerable microscopic work has aided in completing the theory, as well as clinical observation. A very suggestive sample may be given as to the valuable observations one can acquire in a slaughter house. It also confirmed my view of the extensive existence of uterine and tubal automatic nervous ganglia. In fact, such samples were the key-note of comparison.

Dr. C. S. Miller and myself were watching the slaughter and evisceration of a cow weighing some fifteen hundred pounds. The cow was in the eighth month of pregnancy. When the butcher was taking the body of the uterus away he amputated it at the internal os. This left a stump of uterus about six inches long and three inches thick. Our attention was immediately called to the action of this stump. Long after the death of the cow we observed its peculiar cyclical action. The stump slowly described circles and arcs with diameters varying from an inch to nearly four inches. All the muscular layers of that thick uterus worked in perfect harmony. No uterine layer of muscles interfered with any other. Every part of the uterine stump seemed to work with intelligence or a kind of a *quasi* judgment. At one time the circular muscular layer would go through a slow but distinct cycle of action before any other would begin. Then gradually the longitudinal layers of muscles would begin to act and the end of the uterine stump would describe a circle of action, and so it kept repeating these circles, cycles, and contractions until we left, nearly an hour after. It may be said that the action of the muscular layers of the uterus was very vigorous. Each and every visceral organ has its own supply of the sympathetic ganglia brought to it on the walls of the blood-vessels. So each and every visceral organ requiring it has its own established cycle, initiated in primordial life and strengthened by repetition and higher differentiation of special organs, and a more extensive nerve supply (ganglia) to the organs through the inscrutable changes that the evolution of ages adds.

Another point which adds strength to the theory of automatic menstrual ganglia is the following: All anatomists agree that the uterine sympathetic plexus is given off just above where the sacral spinal nerves join it. Now, spinal nerves probably have very little to do with cyclical action (perhaps hinder it). Therefore the sympathetic with its ganglia goes to the body and fundus of the uterus and tubes, which are enabled to go through their cycle of action (menstruation) with but slight trammeling or inhibiting action of the sacral spinal nerves. While the large supply of sacral spinal nerves which go to the cervix and vagina prohibits any cyclical action of those parts in menstruation, the excessive supply of sacral spinal nerves to the cervix and vagina forces the fewer sympathetic ganglia to live sober and steady lives, lest they hold the parts in *tension constantly* as the nervous system holds the muscles during life. Hence the excessive supply of the sacral spinal nerves to the cervix and their force hold such power as to allow no waxing or waning from foreign ganglia; but the body of the uterus and the tubes, having an excess of sympathetic ganglia over sacral spinal nerves, go through with their cycles. It is also noted that the ganglia follow the blood courses, and the upper part of the uterus has an enormous supply of blood brought to it by helicoid vessels—blood-vessels much too long for a uterus in the non-gravid state, and so the vessels lie in coils like angle-worms or ropes. This increases the space for ganglia. According to this theory, the cervix and vagina will be less involved in menstrual cycles than the body and fundus of the uterus and the tubes. Few will doubt that this agrees with facts. Again, these automatic menstrual ganglia are situated not only in the substance of the uterus and tubes, but notably along the walls of the blood-vessels. From this arises an important matter relative to nutrition, or, in other words, blood-supply to the tubes and uterus. As the ganglia wax and wane, so the blood-vessels wax and wane. The blood-supply is thus regulated. As the ganglia approach their maximum of function the blood-vessel assumes its maximum of dilatation. Minimal ganglionic action decides vascular contraction.

The influence of these automatic ganglia on the gestating uterus is occasionally marked, so that it is manifestly shown in slow, but certain, progressive nutritive changes. The changes may go on with or without a method—mostly with a method. I know personally of a pregnant woman who was present at the perforation of a little girl's ear-lobes preparatory to inserting ornamental objects in her ears. The pregnant woman saw the girl's ears pierced, and when her baby was born the baby's ear-lobes were actually perforated by distinct holes, all ready for her womanly vanity, without the pain of acquisition. This influence was, no doubt, produced slowly, through the changes of nutrition, by ganglionic centers lying on the blood-vessel wall of the uterus. I know another woman who, while pregnant, stepped on a frog, and she continually would revert, while thinking, to that frog, with his ugly *warts*, and when her child was born the toes on one foot were merely warts. The force of nervous influence on the organs of woman is seen in those cases where the physical stimulus, as in marriage, or the mental stimulus, as in the *expectation* of marriage, will actually regulate the automatic menstrual ganglia into bringing about healthy, normal periods of menstruation.

Correspondence.

LETTER FROM DUBLIN.

Ether-drinking in Ireland.—The Dublin Hospital Sunday Fund—Ligation of the Lingual Arteries for Cancer of the Tongue.—Koch's Treatment.—Death of Dr. J. A. Byrne and Mr. S. Bigger.—The National Society for the Prevention of Cruelty to Children.—The Health of Mothers.—The Irish Census.—Sir J. T. Banks, K. C. B.

Dublin, *February 12, 1891.*

Drinking ether for intoxicating purposes prevails so extensively in several of the northern counties—viz., Derry, Armagh, Tyrone, Fermanagh, etc.—that it has of late attracted considerable attention. Among the lower classes ether is preferred to whisky, first, for its cheapness, as sufficient can be purchased to produce drunkenness at the cost of one penny; and, secondly, the intoxication only lasts for a comparatively short period, so that the consumer can soon take another dram of the vile liquid. From the inquiries of Mr. Mackenzie Ledlie it appears that about 100,000 people indulge in the habit, and consume about 17,000 gallons of impure ether yearly. The prevalence of the vice has attracted the attention of Parliament, and it is contemplated to place such restrictions on the sale of ether, except for medicinal purposes, as will tend materially to decrease the amount consumed in the northern parts of the country.

The total amount collected during last year for the Dublin Hospital Sunday Fund was £4,188 2*s.* 11*d.*, being a slight increase over the previous year. All denominations, excepting Roman Catholics, join heartily in contributing upon the first Sunday in November for the support of the majority of the Dublin hospitals. The refusal of one particular denomination to take part in the movement is incomprehensible, more especially as nine tenths of those admitted into hospitals are of that religious persuasion.

Recently Mr. Croly, president of the College of Surgeons, ligated both lingual arteries previous to excision of the tongue for cancer. A few days afterward the patient incautiously sat up while partaking of nourishment and fell back dead. Mr. Croly had previously tried this procedure with success, and was induced to adopt the plan of preliminary ligaturing of the lingual arteries in consequence of the hæmorrhage which occurred in a case in which he removed the right half of the tongue by means of the benzoline cautery, the bleeding having taken place at the time of the operation and also from sloughing some days after the operation. The thermo-cautère cuts out the diseased mass as a knife cuts cheese, and is a very good instrument for the purpose.

Koch's treatment of tuberculosis by injections of a specially prepared fluid (called by some "tuberculin") has had a fair amount of trial in the various hospitals of this city and in private practice, but the results, the majority of practitioners agree, are not such as they were led to expect by the glowing accounts received from Berlin. A discussion on surgical tuberculosis took place recently at the Academy of Medicine, and but few speakers had much to say in favor of the Koch treatment. It has undoubtedly been of temporary service, and it may be better in cases of lupus; but will the improvement last? Time alone will show. Some consider it useful as a diagnostic agent, but M. Verneuil, whose eminence is undoubted, in a recent lecture (*Union médicale*), states that in his opinion its diagnostic value is small, and that in the immense majority of cases with the resources, clinical and bateriological, at our disposal the diagnosis is easy, and in case of doubt an incomplete diagnosis is better for the patient than an exact diagnosis which gives neither a clear indication nor an efficacious help in treatment.

Since my last letter we have lost two medical men in Dublin—viz., Dr. J. A. Byrne and Mr. S. Lennox Bigger. Dr. Byrne suffered from typhoid fever complicated with pneumonia. He was a leading obstetric physician. He held the posts of professor of midwifery in the Catholic University Medical School, gynæcologist to St. Vincent's Hospital, and examiner in midwifery, etc., Royal University of Ireland, and was an honorary fellow of the San Francisco Obstetrical Society. Mr. Bigger, about a year since, was attacked with hemiplegia, followed by gangrene of the foot, and succumbed at an advanced age. He was surgeon to Simpson's Hospital, and devoted considerable attention to ophthalmic surgery.

The National Society for the Prevention of Cruelty to Children has its headquarters in London, but branches of the society exist in Dublin, Belfast, and Cork, and the services it has rendered to humanity have been very great. It has been organized to protect tender children from cruelty, general ill-treatment, neglect, starvation, abandonment, cruel immorality, and other wrongs. Through the savagery of parents thousands of children are annually driven into the streets to beg or steal. The society is trying to secure that when little children are in custody of their parents the parents shall be responsible for their acts, unless good grounds to the contrary are shown; also that proceedings shall not be taken against children except by the Crown, and that a child charged shall not answer a solicitor unless there is a solicitor retained for the defense. The manifold evils of baby-farming and of child life insurance are also subjects which engage the attention of the society.

This week Dr. Macan, ex-master of the Rotunda Lying-in Hospital, gave an instructive lecture on the subject of The Health of Mothers before the members of the Ladies' Sanitary Association. He said it had often struck him with surprise that the medical profession appeared to be always so ready to perform "the happy dispatch." The lawyers did not go about, at the instance of philanthropic ladies, giving lectures as to the best way of avoiding the law or of escaping from it at the least cost by those who were unfortunate enough to get into its meshes. But the self-sacrificing character of the medical profession had emboldened the honorary secretary to ask him to give a lecture to mothers as to the way in which to keep themselves in health. Something might be gained by this if it were the custom in this country, as in China, for the doctor to be paid for keeping people in health, and his salary stopped when they got ill, for then he might hope that some of his hearers might come and employ him to keep them in health, and not wait until they were really ill to consult him. He then proceeded to refer to ventilation, clothing, exercise, tight lacing, and other topics.

The census will be taken early in April, and it is estimated that the returns for Ireland, as compared with those of ten years ago, will show a decrease amounting to 445,000.

Sir J. T. Banks, K. C. B., M. D., Physician in Ordinary to Her Majesty in Ireland, has been sworn in as High Sheriff for the County Monaghan.

The American Duty on Microscopes.—The *British and Colonial Druggist* quotes from the *Medical Press* as follows: "Under the McKinley Act, the duty on foreign microscopes imported into the United States has been raised to 60 per cent., so that an instrument costing $94 in Germany will involve a maximum expenditure of $151 by the time it reaches the student! In fact, students will have to club together to get the wherewithal to pursue their researches into the natural history of microbes and minute objects in general."

THE
NEW YORK MEDICAL JOURNAL,
A Weekly Review of Medicine.
Published by D. Appleton & Co.
Edited by Frank P. Foster, M. D.

NEW YORK, SATURDAY, MARCH 7, 1891.

SHORT CUTS TO KNOWLEDGE.

References have occasionally been made in our book notices to a class of books that have of recent years become very common. We refer to certain cheap manuals for medical students. Some of them are well written, and a few may prove of real value to the student. As a rule, however, upon their own merits they are not deserving of notice. But, from the fact that they are being so extensively used by students and young practitioners, they can not be wholly ignored. We are convinced that they are productive of much harm. Were they used solely for the purpose for which they were nominally designed, their power for evil would be less, but this is not the case. The student buys one of these little manuals for a dollar. It contains what he needs in cramming for examination, and he sees no necessity of the purchase of a book costing four or five times that amount. It is a fact that the libraries of many young men graduated from our colleges consist almost solely of these cheap manuals. The various subjects are, of necessity, treated in a brief and dogmatic manner. The whole work is superficial and incomplete, and tends to develop shallow physicians. While the colleges are constantly increasing their facilities for practical work, there is a certain quite large number of students who ignore those facilities more or less completely. Their college life is simply a preparation for an examination by means of quiz-masters and quiz-compends. We have no criticism against properly conducted quizzes. Under a competent man a quiz is one of the most important factors in the system of medical education. But the mere possession of a diploma, even with a hospital experience, is not sufficient guarantee of a man's ability to conduct such a quiz. This often seems, however, to be the supposition, for in some instances the first move after making sure of the diploma is to advertise a quiz.

The great objection to the present methods of quizzing, as well as to the books under consideration, is that they simply present a multitude of disconnected facts to be memorized. They ignore the relationship of these facts to each other and pay no regard to the interdependence and relationship of diseases. The victim of this system leaves the medical school with his knowledge disjointed and disconnected or but poorly arranged for practical use. To him chemistry is simply chemistry, anatomy simply anatomy, and neither is of much use to him in every-day practice. He has no adequate grasp of medicine as a whole in which each subject is an essential and integral factor. He has no broad or comprehensive ideas that are so essential to real success. He believes that the whole subject of medicine can be summed up in a few brief manuals, and has not the slightest comprehension of the dignity of his profession.

These methods tend to the development of men who are unable to make practical application of their knowledge. The reason is that there is nothing practical in the memorizing of so many hundred disconnected facts. These men are without resources and are helpless if thrown outside the narrow limits to which they are usually confined.

The methods of cramming and memorizing facts by means of all the improved modern aids, whereby everything is made easy and simple for the student, may be the royal road to a diploma. The road to knowledge has very few short cuts. It remains what it has always been—the road of individual effort, of intelligent thought, and of untiring labor.

DISPENSARY ABUSE.

We are glad to see the stand taken by the Demilt Dispensary on the subject of the abuse of medical charity. In its report for 1890 it says: "It is not difficult in these days for parties able to pay to use a dispensary, and the necessary loss of self-respect is easily attained whereby the dispensary displaces the family physician and the local drug-store. To relieve actual distress we should be zealous, but to do it with the minimum amount of demoralization to the applicants should ever be our aim. Getting something for nothing is demoralizing, whether it be food, clothing, or drugs."

These are true words and uttered at a time when there is need of united effort to check the abuse. If the Demilt Dispensary, under its good management, feels that these things are true, what a story certain other dispensaries in New York might tell were they to speak! The knowledge that dispensaries are so multiplied and their benefits so easy to obtain invites many to seek them who are abundantly able to pay for the relief sought. But for such there is little difference between begging for medical services by applying at a dispensary and begging for money on the street. In either case no equivalent is rendered. We re-echo the words "to relieve actual distress we should be zealous," but the limits of actual distress have long since been passed, and the large statistics to which many dispensary officers are accustomed to "point with pride" have become evidences, not of good accomplished, but of harm—harm to the self-respect and morale of the community.

It may with truth be urged that the fault does not lie wholly with the dispensary management, but is partly due to the ambition of the attending physician to have a large class and partly to the unutterable folly of other practitioners who send their patients to dispensaries to obtain the benefit of a consultation with a specialist free of charge. But yet the abuse is the greatest in those dispensaries where few or no questions are asked of the patient regarding his ability to pay and no discretion is allowed the physician by means of which he may refuse to treat those who have been admitted but are, in his belief or to his knowledge, able to pay the ordinary fees. If those who support these institutions understood the impositions practiced upon them, we feel sure that radical changes would quickly occur in the management of some of our most famous clinics and dispensaries.

MINOR PARAGRAPHS.

THE MORPHINE HABIT TREATED BY THE GRADUAL METHOD.

Dr. Cottel, of Portland, Oregon, in the *American Practitioner*, states that he has obtained a positive cure in forty cases of morphine addiction by means of the following "mistura diabolica": Morphine sulphate, a variable amount; fluid extract of viburnum prunifolium, four drachms; elixir of ammonium valerianate, three ounces; elixir of sodium bromide, two ounces and a half. The dose is a teaspoonful as required. The amount of morphine is a diminishing one, beginning at a point somewhat below that which has been taken habitually. Tincture of opium may be substituted for the morphine with advantage in some cases, the size of the dose being proportionately increased. The bromide of sodium is in the proportion of five grains in each drachm of the excipient. The mixture can be readily given up after the morphine is dropped from it. This plan of treatment involves the gradual withdrawal of the narcotic in cases where there is a *bona fide* desire to be cured; immediate withdrawal is cruel and unscientific, and it is inapplicable where espionage and restraint are not within reach. Rapid withdrawal of the narcotic has the same objections, and the tendency to relapse is greater than when the gradual weaning has been resorted to. The writer adds: "I am confident that no case is incurable, however chronic, provided the general health is fair." The main point will be to win the confidence of the patient in the physician's power to cure, and to secure this he is to be taught that the substitute used by the physician contains no morphine. If he finds that the substitute contains morphine his co-operation will not be given, since nearly all opium-fiends have had a sad and fruitless experience in regard to the tapering-off process. It is well not to hurry the reduction of the dose of morphine; in chronic cases, or those of persons who have been taking ten grains or less daily, the patients will usually not notice the abstraction of a grain each week, although some must be dealt with even more patiently than that. In smell and taste this mixture is truly diabolic, and many patients will say they can do without the horrible stuff long before the time estimated as required for the withdrawal has been consumed.

CONTRACTED PELVIS MANAGED BY A RESTRICTED DIET.

Among the multitude of expedients and operations that are offered for the management of difficult obstetrical cases it is well to recall, as a kind of golden admonition, the saying that that triumph only is perfect when the child is saved as well as the mother. The induction of premature labor is an expedient that exposes the child to great risk, since its digestive functions are apt to be weak for some time after birth. To avoid this danger, it is reported in the *British Medical Journal*, Dr. Prochownick has sought in a few cases to avert the necessity of premature delivery by controlling the diet during gestation. Three successful cases are given of pregnancy with contracted pelvis in which the women were carried to labor at full term and the children saved. The principle of the dietary is the diminution of the quantity of fat ingested by the woman and stored away by either mother or fœtus. The diet consists, for breakfast, of a small cup of coffee with about one ounce of bread dried in the oven; for dinner, meat, egg, or fish, with but little sauce, some green vegetable boiled with butter, salad, and cheese; for supper, the same, with two ounces of bread and butter added; a little Moselle or claret is allowed. The prohibited articles are water, soup, beer, sugar, and potatoes. This diet only slightly reduces the strength of the mother, and does not appear prejudicial to the child in the experience thus far reported. Dr. Prochownick considers that a thin child born at full term has a better chance of living than a plumper infant born prematurely. The exposure to air at the seventh month and the subsequent artificial feeding involve far greater risks than the proposed reduced nutrition during two months' longer residence *in utero*. The narrowest conjugate diameter of the pelvis in the three cases of successful delivery was 3·94 (nearly 4) inches.

CROUPOUS PNEUMONIA IN CHILDREN.

A series of thirty cases of this disease is reported by Mr. J. Playfair in recent numbers of the *Edinburgh Medical Journal.* But two of the patients were under the age of two years, the disease being uncommon before that age. The apices were involved in about one fourth of the cases. This proportion is about the same as that reported by Henoch, Goodhart, Eustace Smith, and others. It is a common idea that apical pneumonia in children is especially associated with nervous symptoms. In the author's experience this has not been the fact. In this country Dr. Holt, from observations in a large number of cases, shows that the portion of lung involved has little influence in the production of nervous symptoms. The majority of cases of croupous pneumonia in children terminate by crisis, as in adults. In by far the greater number it takes place on the fifth or sixth day, but may be delayed until the fifteenth. When the fall of temperature takes place it is especially rapid and decided and is frequently accompanied by great prostration. Alcoholic stimulants are therefore at this time often urgently demanded, even when they have not been required before. Children respond to such treatment very promptly and satisfactorily. Of the complications, bronchitis has not been recognized as its importance deserves. It may even run on to a catarrhal pneumonia, so that both kinds of pneumonia are present at the same time. Cases with marked gastric or intestinal irritation are usually severe. The most marked peculiarity in the physical signs of the disease in children is their frequent latency or late development. It not infrequently happens that after the onset of definite symptoms three or four days elapse before positive signs can be detected in the chest. Another peculiarity is the extreme rapidity with which the physical signs disappear after the crisis. The average duration of the author's cases, from the onset of the illness to the date when the chest gave a clear percussion note and normal respiratory sounds, was fifteen days. Another circumstance in the croupous pneumonias of children is the comparative ease and safety with which they pass through the attack.

SATURNINE PSEUDO-TABES.

A case of this rare condition was reported in the *Boston Medical and Surgical Journal* for October 30th by Dr. G. L. Walton. It was a fatal case, in which the lead poisoning was prominently marked by ataxic symptoms in a male patient aged fifty-four years. The first symptom noticed by the patient was numbness in the hands, but it did not persist. After this symptom had subsided some loss of sensibility manifested itself in the left foot and spread gradually up the limb until it had reached the lumbar region. A staggering gait, increasingly troublesome, soon followed. The man could not stand with his feet together when his eyes were closed, the knee-jerks were normal, there was no ankle-clonus, and there were no pains except certain sensations in the head, hardly severe enough to be called headache. There were no vertigo, wrist-drop, loss of power in the limbs, gastric crises, nor eye symptoms; the pupils were normal, and so was the urine. The opinion was reached that a neuritis of obscure causation was at work, and an examination was made for arsenic and lead poisoning. The administration of iodide of potassium was followed by the discovery of lead in the urine, but the general absence of saturnine symptoms, such as the blue line and wrist-drop, persisted. The treatment with potassium iodide was carefully carried out and the excretion of iodide of lead in the urine continued, but the patient steadily grew worse and died four months after the discovery of poisoning by lead. The only source of lead that could be found was an old kettle that had long been used for boiling water for the patient. It was lined with tin, and water boiled in it for some time was found to contain traces of the poisonous metal.

DRAINAGE OF THE VENTRICLES OF THE BRAIN.

A communication by Dr. A. Broca on this subject appears in the *Revue de chirurgie* for January, 1891. From the results obtained by himself and others in drainage of the ventricles, in a certain class of cases, he is of the opinion that the operation is one that the surgeon is perfectly justified in attempting. In a number of cases in which he had trephined, the relief, within an hour, from the symptoms of compression was very marked. He reports the success of the operation in a case of hydrocephalus in a child three years old. The patient was in very bad condition from loss of sleep and exhaustion consequent upon the convulsive movements of the upper extremities. There were also present contractures of the right upper extremity. Deglutition and mastication were performed with great difficulty; speech was inarticulate; and walking or standing was impossible on account of the great weakness of the legs, though no paralysis existed. The skull was trephined, a trocar and aspirator were introduced into the ventricular cavity, and from fifty to sixty grammes of fluid were drawn off. A caoutchouc drainage-tube was left *in situ* for fifteen days. There was no febrile reaction following the operation, and there was no suppuration or any other unpleasant symptom. In twenty-two days after the operation the child was taken from the hospital very much improved. The convulsive movements had entirely disappeared, very little of the contracture remained, and the child was able to grasp heavy objects with the right hand. Sleep was more tranquil and speech more intelligible; deglutition, however, was not much improved. Walking was becoming more natural day by day.

NEPHRITIS FOLLOWING VARICELLA.

Two cases are reported in *Lo Sperimentale* for November, 1890. They were observed by Dr. Högyes, in St. Stephen's Hospital in Budapest. The first case was that of a boy, two years and a half old, in whom the nephritis developed twenty-one days after the appearance of the eruption of varicella. The eruption had been light and accompanied with but little fever; but, nevertheless, the patient died. In the second case, that of a girl of seven years, the eruption was more intense than in the first case, but ran its course without fever. The patient was discharged from the hospital in four days after the drying up of the vesicles. Two weeks later she returned with œdema of the face and ankles. She made a good recovery. In neither case had there been any other disease that could have caused a secondary affection of the kidneys. The author comes to the following conclusions: 1. Secondary inflammations of the kidneys may develop after varicella just as after the other acute infectious exanthemata. 2. Although varicella is the mildest of these diseases, the secondary nephritis may be as fatal as after measles, scarlet fever, or small-pox. 3. The symptoms of nephritis may develop after the appearance of the varicella at an interval varying from five to twenty-one days, but have never yet been observed during the eruption or before the vesicles had dried.

HYPODERMIC INJECTIONS OF NITROGLYCERIN IN THE TREATMENT OF ANGINA PECTORIS AND ASTHMA.

Hoffman, in the *Giornale internazionale delle scienze mediche* for September 30, 1890, recommends the hypodermic injection of nitroglycerin for the relief of angina pectoris and severe asthma, and also of obstinate trigeminal neuralgia. He gives from one half to one milligramme ($\frac{1}{130}$ to $\frac{1}{65}$ grain) at a dose. The effect of the injections is instantaneous, and they have no unpleasant results with the exception of a feeling of pulsation in the brain which is complained of by some patients.

ITEMS, ETC.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported during the two weeks ending March 3, 1891:

DISEASES.	Week ending Feb. 24.		Week ending Mar. 3.	
	Cases.	Deaths.	Cases.	Deaths.
Typhoid fever	9	2	5	2
Scarlet fever	158	23	138	40
Cerebro-spinal meningitis	1	1	3	3
Measles	365	19	328	15
Diphtheria	107	35	100	51
Small-pox	2	0	0	0
Varicella	15	0	10	0
Whooping-cough	5	0	0	0

The New York Academy of Medicine.—At the next meeting of the Section in Surgery, on Monday evening, the 9th inst., there will be an exhibition of patients; Dr. R. F. Weir will show a spleen and a kidney removed by operation, also a tube lost in the œsophagus; Dr. F. Kammerer will report three cases of nephrectomy; Dr. R. W. Amidon will read a paper on The Danger of Administering Chloroform in the Presence of an Open Flame; and Dr. Willy Meyer will show a new cystoscope.

At the next meeting of the Section in Pædiatrics, on Thursday evening, the 12th inst., Dr. H. Koplik will present a specimen of urethral calculus, with the history, and make a demonstration of Escherich's milk-sterilizing apparatus and of Koplik's aseptic exploring needle and apparatus; Dr. J. Dorning will present new instruments; Dr. H. D. Chapin will read a paper on Tetanus Neonatorum, with the report of a case with the autopsy; Dr. J. Lewis Smith will make a report on The Progress of the Treatment of Diphtheria during the Year 1890; and Dr. A. Caillé will make a report on Pædiatrics as dealt with at the Tenth International Medical Congress.

At the next meeting of the Section in Genito-urinary Surgery, on Thursday evening, the 12th inst., there will be a presentation of cases and reports; Dr. J. E. Kelly will report A Case of Idiopathic Chyluria; Dr. S. Alexander will report A Case of Encysted Prostatic Calculus with Stone in the Bladder; Dr. J. B. Gibbs will read a paper on Simple Ulceration of the Rectum (to be discussed by Dr. Hartley, Dr. Bangs, Dr. Kelsey, Dr. Syms, and others); and Dr. F. Tilden Brown will make An Ocular and Tactile Demonstration of Urethral Lesions by the Aid of New Instruments, shown with a case (the subject to be discussed by Dr. Brewer, Dr. W. K. Otis, Dr. Bangs, Dr. E. Fuller, and others).

The New York Academy of Medicine's Section in Genito-urinary Surgery.—A regular meeting of the Section was held on Thursday evening, February 12th. Dr. R. W. Taylor was elected chairman and Dr. Samuel Alexander secretary for the ensuing year. Dr. G. H. Fox presented a case showing a papular syphilide in groups, and made some remarks upon the diagnosis of cutaneous syphilis, which he illustrated with original photographs. The chairman reported three cases—viz., 1, traumatic hyperplasia of the vulva; 2, syphilitic hyperplasia of the vulva; 3, epithelioma of the penis, not involving the glans. Water-color drawings of these lesions were shown. Dr. Alexander read a paper entitled Report of a Case of Papillary Adeno-carcinoma of the Bladder, with Some Observations upon the Diagnosis of Small Papillary Fibroma of the Bladder. Dr. George E. Brewer read a paper entitled The Contagiousness of Chronic Urethral Discharges. The papers were discussed by Dr. Sturgis, Dr. Bangs, Dr. Bache Emmet, Dr. Morrow, Dr. Brown, Dr. W. K. Otis, Dr. Alexander, and the chairman. The programme for the next meeting is given elsewhere in this issue.

The Medical Microscopical Society of Brooklyn.—The special order for the last meeting, on Wednesday, the 4th inst., was a paper by Dr. Kemp, on The Pathology of the Vomit, Liver, Spleen, and Kidneys of Yellow Fever.

Change of Address.—Dr. Leo Ettinger, to No. 151 East Seventy-second Street.

Army Intelligence.—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from February 22 to February 28, 1891:*

The following-named officers, having been found by Army Retiring Boards incapacitated for active service on account of disability incident to the service, are, by direction of the President, retired from active service this date, under the provisions of Section 1,251, Revised Statutes:

De Hanne, J. Victor, Captain and Assistant Surgeon.

Steinmetz, William R., Captain and Assistant Surgeon.

Par. 18, S. O. 44, A. G. O., February 26, 1891.

The following-named officers, having been found by Army Retiring Boards incapacitated for active service on account of disability incident to the service, are, by direction of the President, retired from active service this date, under the provisions of Section 1,251, Revised Statutes:

Gardiner, John de B. W., Captain and Assistant Surgeon.

Shufeldt, Robert W., Captain and Assistant Surgeon.

Par. 12, S. O. 43, A. G. O., Washington, D. C., February 25, 1891.

Owen, William O., Jr., Captain and Assistant Surgeon, is, by direction of the Secretary of War, relieved from further duty in the Department of the Missouri, and will report in person to the commanding officer, Jefferson Barracks, Missouri, for duty at that station, and by letter to the superintendent of the recruiting service. Par. 2, S. O. 44, A. G. O., Washington, D. C., February 26, 1891.

Fryer, Blencowe E., Lieutenant-Colonel and Assistant Medical Purveyor, having been found incapacitated by Army Retiring Board on account of disability incident to the service, is, by direction of the President, retired from active service this date, under the provisions of Section 1,251, Revised Statutes. Par. 15, S. O. 42, A. G. O., February 24, 1891.

Chapin, Alonzo R., Captain and Assistant Surgeon. By direction of the Secretary of War, the leave of absence granted in S. O. 17, January 31, 1891, Department of Dakota, is extended one month. S. O. 41, A. G. O., February 20, 1891.

Society Meetings for the Coming Week:

Monday, *March 9th:* New York Academy of Medicine (Section in Surgery); Lenox Medical and Surgical Society (private); New York Ophthalmological Society (private); New York Medico-historical Society (private); New York Academy of Sciences (Section in Chemistry and Technology); Boston Society for Medical Improvement; Gynæcological Society of Boston; Burlington, Vt., Medical and Surgical Club; Norwalk, Conn., Medical Society (private); Baltimore Medical Association.

Tuesday, *March 10th:* New York Medical Union (private); Medical Societies of the Counties of Chemung (quarterly—Elmira), Rensselaer, and Ulster (quarterly), N. Y.; Newark, N. J., and Trenton (private), N. J., Medical Associations; Baltimore Gynæcological and Obstetrical Society.

WEDNESDAY, *March 11th:* New York Surgical Society; New York Pathological Society; American Microscopical Society of the City of New York; Medical Societies of the Counties of Albany and Montgomery (quarterly), N. Y.; Pittsfield, Mass., Medical Association (private); Worcester, Mass., District Medical Society (Worcester); Philadelphia County Medical Society.

THURSDAY, *March 12th:* New York Academy of Medicine (Section in Pædiatrics); New York Academy of Medicine (Section in Genito-urinary Surgery); Society of Medical Jurisprudence and State Medicine; Brooklyn Pathological Society; Medical Society of the County of Cayuga, N. Y.; South Boston, Mass., Medical Club (private); Pathological Society of Philadelphia.

FRIDAY, *March 13th:* Yorkville Medical Association (private); German Medical Society of Brooklyn; Medical Society of the Town of Saugerties.

SATURDAY, *March 14th:* Obstetrical Society of Boston (private).

Letters to the Editor.

DAGUERREOTYPISTS' ALLEGED IMMUNITY AGAINST TUBERCULOSIS.

1013 MADISON AVENUE, *February 23, 1891.*

To the Editor of the New York Medical Journal:

SIR: I was not a little interested in the paragraph relating to the alleged immunity of daguerreotypists to tuberculosis in your last issue. I beg to say that my experience with the salts of gold in the treatment of tuberculosis leads me to believe that if daguerreotypists enjoyed any immunity from this disease, it can be largely attributed to the salts of gold which were constantly used in such work and which the workers must have to some extent absorbed. The vapors of iodine, bromine, and mercury, have not effected so much in my hands as the salts of gold, though these vapors may prove valuable additional agents in combating this dread malady. J. BLAKE WHITE, M. D.

GRADUAL DILATATION OF THE SPHINCTER ANI FOR CHRONIC CONSTIPATION IN AN INFANT.

LOCKPORT, N. Y., *January 26, 1891.*

To the Editor of the New York Medical Journal:

SIR: In May, 1889, I was called to see Mrs. L.'s baby, a well-nourished child of seven months, who had never had a passage from the bowels without previously having had an enema of water administered.

Three older children had had the same trouble up to the age of six months, when the bowels in each case began to move naturally.

In the case of this child, the six months having gone by, various laxatives and cathartics had been given, but without avail.

I directed the mother to gently insert her forefinger within the sphincter three times a day for two days, and then to carefully insert two fingers, and after two days more to begin to gradually separate the inserted fingers, and thus to thoroughly stretch the sphincter without danger of lacerating it.

In addition, I advised gentle massage of the abdomen, and prescribed a mixture of iron, nux vomica, and belladonna.

The result of the treatment was that in four days there was, for the first time, a natural movement of the bowels, and no further trouble has since occurred.

I think the cause of the constipation was undue contractility of the sphincter ani, as shown by the result of the treatment.

C. FERDINAND DURAND, M. B., M. C. P. and S. O.

Proceedings of Societies.

NEW YORK NEUROLOGICAL SOCIETY.

Meeting of February 10, 1891.

The President, Dr. LANDON CARTER GRAY, in the Chair.

The Use of Atropine in the Treatment of Localized Muscular Spasm.—Dr. W. M. LESZYNSKY read a paper with this title. (To be published.)

Dr. V. P. GIBNEY, on being asked for his views on the subject of the paper, said he did not know whether the author had included in his earlier reports cases of hysterical torticollis, rotary spasm, and so on. He doubted whether it was the intention to include that class of cases known as spastic paraplegias. The cases which came under the speaker's personal observation were only those of functional disturbance or deformity.

The Degenerative Diseases of the Spinal Cord, with a Description of a New Type.—This was the subject of a paper by Dr. C. L. DANA. He said that almost all the organic diseases of the spinal cord which the physician had to treat belonged to one of two great classes, the destructive and the inflammatory. There might be some doubt felt as to the class in which the case he was to report should be placed. He therefore preceded the history of his case with some remarks upon the pathology of the inflammatory and degenerative processes which affected the cord. Softening and degeneration of the cord were both processes that had to do essentially with the nerve parenchyma, the cells, and fibers. They were always associated with a good deal of vascular activity and connective-tissue proliferation, resulting in cicatrices and scleroses. The results of bacteriological work had given us a wider grouping of these diseases and a more certain knowledge of the nature of inflammation. According to modern doctrine, inflammation was a reaction of the organism to an irritant; this irritant was practically always a microbic poison. Without a microbe there could be no inflammation. Again, inflammation was an attempt to eliminate the poison or irritant, and then to repair its ravages. Still further, inflammation had to do with blood-vessels and connective tissue only. Many cases of so called chronic myelitis were cases of injury, either the result of an acute destructive process or due to a nutritive disturbance that was of vascular origin—such as obliterating arteritis. Finally, it seemed to the author that the terms transverse myelitis, compression myelitis, and acute myelitis might as well be dropped from ordinary use, unless there was distinct evidence of septic infection. The true anatomical tests of inflammation should be based upon studies of true myelitis produced by the introduction of pyogenic organisms. Turning again to the subject of the degenerative disorders of the cord, primary degenerations were the ones dealt with. They were, so far as now known, locomotor ataxia, lateral sclerosis, the combined scleroses, multiple sclerosis, periependymal sclerosis, and the progressive muscular atrophies, including amyotrophic lateral sclerosis. The primary degenerative diseases of the spinal cord had all a certain degree of kinship. The course of all was uniformly progressive, and one not very infrequently complicated another. The sharpest distinctions were found between those affecting the gray matter and those affecting the white matter. The degenerations of the white matter were more common, slower in their course, different in ætiology, and much more varied in symptomatology than those of the gray matter. As a rule the gray matter was not much involved except secondarily and late. The distinction of the disease under consideration from other degenerative diseases and the placing of it in a separate group were justified by the following observations: Ætiologically, it was peculiar in occurring so often in women and at comparatively advanced periods of life. Syphilis did not appear often to be a factor in its cause. Symptomatologically, it was distinguished by its almost subacute course, by the presence of paræsthesia and often of anæsthesia, with, as a rule, spastic symptoms, and finally paraplegia. Pain also was not common. Ataxic paraplegia, on the other hand, ran a very chronic course, anæsthesia was quite rare, and paraplegia came late. Anatomically, it was peculiar in the fact that the degenerative processes were rapid and accompanied with a peculiar collateral or terminal softening. The lesion was also less diffuse than in ataxic paraplegia, and involved the root-zones of the posterior column, and the posterior columns generally, more than in the allied disease. Its distinction from locomotor ataxia with secondary lateral sclerosis was in every way most marked. The history of a case was related. The patient was a woman, forty-four years of age, who, on her admission into the hospital, could barely walk with assistance. The legs and thighs were considerably wasted, the left more than the right. They were slightly drawn up, and she suffered at times from painful contractures in them. The knee-jerk and the superficial reflexes were abolished. There was no cutaneous anæsthesia. She had some disturbance of the bladder. Her bowels were usually constipated, but at times under nervous excitement she had an obstinate diarrhœa. The arms were not much affected, though they were weak. She was at times delirious and had delusions. Vision was not affected. She gradually grew weaker, and after six weeks died. At the post-mortem examination the brain appeared normal, as did also the dura of the spinal canal. On opening it, an extensive softening was apparent in the lower dorsal region. Aside from the local disturbances, there were no gross evidences of disease. Microscopic examination of sections of the cord showed the most active and recent process in the lower dorsal region posteriorly. Here the cord was softened by a process necrotic in nature, which was confined externally by the thickened meninges and internally by a pretty sharply defined wall of healthy cord tissue. At the level of the tenth dorsal vertebra this process had extended farther anteriorly, until it had nearly cut the cord in two. The softened area in some sections was filled with detritus of nervous tissue, and enlarged blood-vessels were seen near the edge. On the outside there was an exudation of lymph. Besides this there was a degenerative sclerosis of the lateral and posterior columns throughout the spinal cord. The process in the lateral columns was confined chiefly to the pyramidal tracts, but in the cervical region it extended forward and involved the cerebellar and the ascending lateral tracts. The posterior columns showed a slight focus of beginning softening in the lower cervical region, and in the lateral columns the degenerative process seemed rather subacute. It was not a hard sclerosis. The spinal nerve roots were not affected, except the posterior roots in the lumbar region. The morbid process, on the whole, was apparently a subacute systemic degeneration with a terminal focal softening. Associated with the last stage was a local reaction inflammation with some lymph exudation. The vessels of the cord showed no marked degree of degeneration, and the morbid process could not be ascribed to the blocking up and obliteration. It seemed to be rather a primary and rapid systemic degeneration which was cut short by the focal softening, thus causing paraplegia and death. Pathologically, then, the principal characteristic of this case was its rapid course, its primary character, its systemic disturbance, and the terminal softening. The brain was carefully examined and showed no morbid change.

Dr. B. **Sachs** said that at present it was difficult to agree or disagree with Dr. Dana. The clinical symptoms in his own and Dr. Putnam's cases had varied from the symptoms ordinarily met with in cases of combined sclerosis, but those who had seen many cases of tabes and of ataxic paraplegia and of other forms of combined scleroses would hesitate to create new types on the basis of a slight variation in symptoms. Moreover, it was now known from the investigations of many observers that the degenerations that occurred in the spinal cord were not strictly symmetrical. They often overlapped the lines that divided the spinal tracts from one another. Cases had been recorded in which the degeneration of the white fibers had also involved the gray matter of the cord. He could not, therefore, see the advantages of creating a special type because the degeneration in these cases happened to be somewhat differently distributed. He must object also to Dr. Dana's suggestion for the suppression of the term compression myelitis. No doubt many years ago the term had been loosely applied, and in a fair number of cases of compression of the cord the destruction of that organ was not the result of an inflammatory process. It was only within the last few months that Schmaus, in a series of beautiful researches, had demonstrated the extension of the inflammatory process from the bone to the spinal cord itself. In many cases of Pott's disease the symptoms might unhesitatingly be attributed to a true myelitic process.

Dr. G. R. **Elliott** said that, as to the possible pathology of the changes which took place in the spinal cord in the conditions under consideration, there had, he thought, been much useless discussion as to the precise kinds of degeneration and inflammation which attacked nervous tissue. He thought that those present might all agree that these changes were reconcilable with those that took place in other organs. In all processes recognized as inflammatory and running a protracted course there was increase of connective tissue, with results incidental to this. Nervous tissue had an intercellular substance, the same as any other organ with the same parenchyma and protoplasmic material under certain modifications. In the acute processes the cells underwent more decidedly rapid changes than was the case with the liver, the kidneys, or the heart. In the course of acute processes degeneration might or might not occur. Every process, whether degenerative or inflammatory, was followed by the increase of connective tissue, but the mere presence of this tissue in the nerve substance was no proof as to the initial lesion, whether inflammatory, degenerative, septic, or some process of embolism or thrombosis. As to compression myelitis, there was no absolute proof that the lesion was inflammatory, and he thought that everything pointed to the contrary. The examinations of the cords in these cases were usually made at a late stage, when the changes found and the increase of connective tissue present had given rise to the idea that the processes had been inflammatory from the beginning. Kohler had, however, demonstrated that similar changes could be brought about by mechanical pressure of the cord. In the majority of cases of compression myelitis following Pott's disease there was no tendency for the inflammatory processes to attack any part of the cord. The inflammation was limited to a narrow site on the dura. It was only where the process was a rapid one and the perforation of the dura ensued that leptomeningitis and myelitis were set up.

Dr. W. R. **Birdsall** thought that the position taken by Dr. Dana was correct, for he was not attempting to establish the existence of a new type of disease of the cord, but was merely calling attention to a group of symptoms differing in course from those of ordinary cases of combined scleroses. In the opinion of the speaker, compression myelitis was not an inflammation of the cord in the majority of cases. He took exception to the view that placed changes in the cord on a par with those in other organs, and he did not think that one was justified in saying that the inflammatory processes in the central nervous system were the same as those in other parenchymatous organs.

Dr. Sachs said that the remarks he had made in regard to compression myelitis appeared to have been misinterpreted. He was well aware that the term had often been misapplied, but the point he wished to make was that, in view of the very latest investigations, there was every reason to believe that a true myelitic process was the cause of the symptoms in a number of the compression cases, particularly in those in which a tuberculous process in the bone had been the starting point of the whole trouble.

Dr. C. A. Herter had, in Pott's disease, seen direct extension of the inflammatory process from the dura to the cord, though the majority of the cases examined post mortem were seen at a time when the changes in the cord were purely of a degenerative character, and the inflammatory site was not to be seen.

The President said that it seemed to him that Dr. Dana had made a very useful contribution to the subject. Of course the paper was only tentative, drawing attention to what he and others had observed. All this part of the spinal cord was a mysterious area, both clinically and pathologically. The author of the paper was perfectly warranted in throwing any possible light upon the subject and in offering any suggestion based upon observation for the grouping of the pathological conditions and clinical symptoms in this part of the cord.

Dr. Dana thought that pathologists generally at the present time would agree with him as to inflammation. Occasionally it arose from causes other than microscopic poisons, but there was usually some pyogenic germ as the starting point of the inflammation. If it was not possible to get any history pointing to the entrance of these, he believed it better to withhold any opinion as to the inflammatory or non-inflammatory nature of the lesion. Dr. Sachs's suggestion that there might be tuberculosis of the cord at this level in some of these cases might be correct, but in the great majority of the cases tuberculous meningitis would not end in sclerosis, but would probably destroy the cord by softening. He agreed that it was well to be cautious in making new types of disease; still, such conditions as Putnam had described were not locomotor ataxias or ataxic paraplegias; the prognosis and treatment were different. Prevention or early recognition were important. The condition seemed to depend upon some toxic influence. In pernicious anæmia the cord might take on degenerative changes, therefore great attention to the blood was necessary. Recognition of a type was certainly of importance clinically.

NEW YORK ACADEMY OF MEDICINE.

Meeting of January 15, 1891.

The President, Dr. A. L. Loomis, in the Chair.

Chronic Cervical Adenitis in Children.—Dr. A. Jacobi read a paper on this subject. He said that, with nothing new to offer from an anatomical standpoint, he thought it expedient to touch on the subject slightly before going on to that of ætiology. He then commenced an elaborate survey of the general anatomical relations of the jugular lymphatic trunk by stating that the great lymphatic trunks were three in number—the jugular, the subclavian, and the broncho-mediastinal. The first carried lymph from the head and neck, the second gathered that of the upper extremity and the anterior wall of the chest, and the third that of the lower extremities and the posterior part of the thorax. On the left side of the body the latter was represented by the thoracic duct, which attended to the collection of the chyle and the rest of the lymph circulating in the abdominal and thoracic organs. These three trunks were usually but short, and they discharged their contents, which floated in the network of innumerable ducts, into the veins. Before so doing, they sometimes joined on either side into a common lymphatic trunk. The lymph ducts, which formed the trunks, had to pass the so-called lymphatic glands. Such of these as were peripheral sent their vasa efferentia into the inner tiers. Thus the vas efferens of the superficial gland became the afferens of one more centrally located.

The frequency of morbid changes in the lymphatics was explained by the large amount of cells which formed the bulk of their structure. They were still similar to the embryonic cells, increasing and proliferating as rapidly. Therefore, tumefactions were brought about very readily. As an intricate network of blood-vessels penetrated their follicular substance, they might undergo morbid changes through the intervention of the blood. When the latter was the cause of disease the whole system of lymphatics was likely to be affected simultaneously. This was, however, rare. In the majority only groups of lymphatics or single lymph bodies were affected. The cause of the disease must be looked for in the circulating lymph which, both in normal and abnormal circumstances, was retained and filtered in the lymphatics. These were not open tubes, but a fine network of cavities lined with endothelium. Foreign bodies of any description floating in the lymph were there retained and underwent changes. There were also chemical changes in the lymph itself which would provoke disease. Thus it was that most of the morbid changes of the lymphatics were secondary in character. Such changes were almost always the result of or complicated with hyperæmia and inflammation. The lymphoid cell constituents increased in different ways. Leucocytes were retained in large numbers, lymph-cells floated in, a subdivision took place, and the endothelia and cells were changed into similar or equal organic particles. This condition might undergo restitution, or a lymphatic induration might take place through nuclear proliferation in the stroma, and, again, suppuration or necrosis might occur. The fibrous induration was more frequently met with in the bronchial, tracheal, mesenteric, axillary, and inguinal glands than in the cervical. In the inguinal it was very common, and was frequently met with in this region without any morbid symptoms. This change exhibited often a chronic character from the beginning. The glands were not always enlarged, but were white and hard on section, with thickened capsule, the cellular substance seemed to be diminished, and the gland appeared to consist more or less of connective tissue only. The suppurative change might be confined to the gland, at least temporarily, or the neighboring tissues participate in the process at an early period. Small abscesses originating mostly in the follicular substance, might prove confluent so as to form larger abscesses, and finally burst or were incised. Recovery took place by a shrinking process, by cicatrization, by the formation, when the larger lymphatics were injured, of a fistula, sometimes accompanied with lymphorrhœa, or by desiccation or caseation. This was the second form of chronicity. The third form of chronic adenitis was the caseous, which generally occurred under the influence of scrofulous or tuberculous predisposition. It was usually found in the cervical, bronchial, and mesenteric glands.

General infection of the glandular system might act through the blood, as in any putrid and septic invasion, in anthrax, lepra, leucocythæmia, and pseudo-lycocythæmia; under the influence of Koch's liquid, in syphilis, and in enteric fever. In the two latter the local irritation resulted in local glandular affection by preference. Still more local was the action of the diphtheritic virus. The majority of cases of adenitis owed their existence to a local influence. In many instances the study of the origin was easy, in others, particularly in cases of long duration, the connection of chronic adenitis with its original source was no longer traceable.

In a child, therefore, of advanced years, and in the adult, the history of chronic cervical tumefaction might be quite obscure; in the infant and young child the elucidation of the ætiology was generally simple. The best protection against adenitis in any of its forms was the preservation of good general health and the absence of any breaks in the integument. Traumatisms, insect bites, erysipelas, and so on, would start an adenitis directly. Pediculi, eczema, or impetigo capitis would do the same thing; heal these, and, contrary to the public prejudice, most of the glandular noduli and nodi would disappear.

Among other rife causes given by the speaker were many of the ear and eye troubles, various forms of zoster, fever blisters, and so on. Any condition interfering with the healthy state of the mucous membranes might give rise to adenitis. This was especially true with regard to the nose and naso-pharynx. Boring at the nose, from reflex intestinal irritation by worms, was likely to set up a chronic adenitis. Simple douches of salt and water were the best remedy for these nasal irritations. There was no better illustration of the way an adenitis would come and go in the presence of proper treatment than in nasal diphtheria. As fast as the glands swelled, just so rapidly would they diminish under the influence of cleanliness and disinfection, while, if not so reduced, their infection would lead to death or chronic changes. Cracked lips permitted the invasion of microbes and the development of adenitis. Epithelioma, stomatitis of every form, the denuding of the surface by a burn or by hot food, were all causative. Abrasions of the surface of the tongue through catarrh or inflammation, or the surface lesions of infectious diseases, might all provoke adenitis. Drugs would also produce the same effect. Chronic bronchitis resulted in swelling of the mediastinal glands; their intimate connection with the lower tier of the cervical affected these. This observation could be made in the chronic bronchitides of tubercular and rhachitic babies in many instances. Acute pulmonary diseases exhibited similar results. The vaso-motor changes of the face, its flush lasting for days, generally unilateral, on the side of an acute pneumonia, were well known. Not so commonly known, however, was the tumefaction of cervical glands in cases of pleuro-pneumonia of the upper lobe. This disease had an immediate influence upon the intrathoracic lymph-bodies adjacent to the apices, and through them on the subjacent cervical lymph-bodies.

While touching upon the question of diagnosis, the speaker said that the sensation of fluctuation in glandular swellings was often misleading. Large glands might be mistaken for sarcomata, and *vice versa*. These latter pseudoplasms yielded a peculiar apparent fluctuation, though there might be no cystic complication. This semi-fluctuation was almost characteristic sarcomata in every region. It was always a difficult thing to determine the presence of pus during the stages of initial softening. Still less was there absolute certainty in every case of the presence or absence of a malignant nature in a large glandular swelling. This difficulty was made very apparent by the variety in the morphological diagnoses by the morphologists. The gradual increase in size, however, of a tumor without softening spoke for the probable malignancy of the growth. The presence of more swellings of the same character on other parts of the body might prove the existence of Hodgkin's pseudo-leucocythæmia, and the same, with enlargement of the spleen or liver and the characteristic changes in the blood, might indicate leucocythæmia.

Dr. W. H. Thomson, in discussing the subject of the treatment of cervical adenitis in children, said he had come to place great reliance upon the use of cod-liver oil. He believed it acted not as a medicine. No one agent gave such results in the way of enriching the red blood-corpuscles. It was much more beneficial than iron, which only worked well in the anæmic cases. He thought that the oil might be given with advantage as a prophylactic where the indications pointed to possible glandular troubles. He placed very little confidence in the iodides for young children. For those of ten or twelve years of age, perhaps, they would be found of benefit. There was one drug, however, upon which he had found he was able to rely. He had tested it in cases where all ordinary treatment had proved of no avail. This was chloride of calcium.

Dr. A. G. Gerster, in the course of an elaborate survey of the current methods in the surgical treatment of acute and chronic adenitis, dwelt upon the fact that while the conscientious surgeon of to-day would advocate prompt and even radical operative interference in these glandular inflammations wherever indicated, yet he wished it understood that no pains were to be spared to restore, by proper therapeutic measures and hygienic influences, the constitutional integrity of the patient and thus avoid the only other adequate step—the timely use of the knife.

Dr. W. W. Van Arsdale, in discussing the relative frequency of adenitis in children, said that out of five hundred and fifty-five cases which had formed the basis of his observations, adenitis of cervical origin had occurred in the proportion of twenty-three per cent. in adults to seventy-seven per cent. in children. In that form of adenitis, however, which was diagnosticated as tubercular in form, he had found that the adults largely exceeded the children in numbers. The proportion was eleven per cent. of the former to six per cent. of the latter. Hyperplasia of the lymph glands or chronic specific adenitis he had found to occur in the proportion of twenty-one per cent. in children to twelve per cent. in adults.

Book Notices.

A Text-book of the Diseases of the Ear. By Dr. Josef Gruber, Professor of Otology in the Imperial Royal University of Vienna, etc. Translated from the second German edition by special permission of the author and edited by Edward Law, M. D., C. M. Edin., M. R. C. S Eng., Surgeon to the London Throat Hospital for Diseases of the Throat, Nose, and Ear, and by Coleman Jewell, M. B. Lond., M. R. C. S. Eng., late Physician and Pathologist to the London Throat Hospital. With 150 Illustrations and 70 Colored Figures on 2 Lithographic Plates. New York: D. Appleton & Co., 1890. Pp. xxiv–580. [Price, $5.]

The great advance that has taken place in the theory and practice of otology is exemplified in this valuable work, which has been excellently translated. The translators seem to have become imbued with Professor Gruber's spirit, for his fluency and clearness have been retained, and, while the text has been closely adhered to, German idioms have been skillfully avoided.

We know of no work in which the anatomy of the temporal bone and of the ear is dealt with more exhaustively and minutely. The author feels convinced that successful cultivation of this field of work is impossible without an accurate anatomical knowledge of this region, and he has accordingly devoted over a hundred pages to this subject. Attention is first given to the temporal bone at birth, to its development until fully mature, and to a careful study of the various cavities and canals in the bone and of their relations one to another. The rest of the section is devoted to a description of the organ of hearing, which commands admiration. The macroscopic and microscopic appearances are not separated, but are woven together so as to form a unit. Little now remains unknown even in the anatomy of the labyrinth, and it is greatly to be hoped that its physiology will soon become as well understood. But anatomical works differ less in their substance than in their manner of expression, and the student can not fail to value a work which, like this one, tells its story completely and clearly.

The next section is devoted to the examination of patients, general pathology, and therapeutics. The author urges that in all cases the general history and condition of the patient should be considered before the state of the auditory organs is investigated, as in this way certain particulars may be brought out that might otherwise remain unnoticed. The subjective symptoms, including the patient's psychological condition, should then be studied before recourse is had to the objective signs. The methods of investigating the power of hearing and of perception of tone are discussed at considerable length, and a few remarks are made on some of the rarer anomalies of hearing.

Accurate observation of the objective signs of the various morbid conditions is of great importance in relation to diagnosis, prognosis, and rational treatment, and the chapter devoted to this subject repays careful perusal. Sight, touch, and hearing are all employed in making such examinations, and the directions given are clear and distinct. They include examination of the external auditory canal and of the deeper structures of the ear by means of illumination, rhino-pharyngoscopy, catheterization of the Eustachian tube, and the employment of the air douche, and the author discusses the advantages and disadvantages of the various methods employed to inflate the middle ear. Regarding the use of Eustachian bougies the author speaks guardedly, and practically admits that they can not be employed without danger of causing injury unless the anatomical conditions are normal. The directions in regard to syringing of the external auditory canal and the introduction of liquid applications are more complete than usual. Only too frequently is it forgotten how much depends upon the *modus operandi* in such work, and it is largely left for the student to learn by experience.

The third part, which occupies nearly two thirds of the entire book, is devoted to the diseases of the ear. The malformations and diseases of the auricle receive a sufficient notice and are followed by a chapter on circumscribed and diffuse inflammation of the external auditory meatus. The most noteworthy point here is the abandonment of scarification of furuncles in the stage of hyperæmia in favor of treatment by means of almonds or ovoids of gelatin containing one sixth of a grain of liquid extract of opium or one twelfth of a grain of hydrochloride of morphine. The auditory canal is thoroughly washed out with a warm 4 per-cent. solution of carbolic acid, the gelatin almond is introduced deep into the canal, and the meatus is closed with cotton. The preparation gradually dissolves, the pain is generally alleviated, and the inflammatory process is cut short. In more advanced stages other treatment is necessary.

The "gelatin almonds" are a favorite form with the author for the application of various medicaments to be introduced into the external canal for diseases both of that canal and of the middle ear.

Primary inflammation of the tympanic membrane is rare, but the acute form is described quite at length. The introduction of cold water is mentioned among the most common causes, and we suspect that these cases are often diagnosticated as acute inflammation of the middle ear, although the objective signs are said to be characteristic. Regarding artificial drum membranes, a generally valid hypothesis of the manner in which they act in improving the hearing capacity can not be enunciated, but it has been found that those made from linen or silk sometimes accomplish more than the others. Their probable efficacy in any particular case can never be predetermined with accuracy.

Inflammation of the middle ear, which is the most frequent form of ear disease, is divided into two classes—exudative and plastic; the former is subdivided into catarrhal, purulent, croupous, and diphtheritic. Regarding the purulent form, the danger to life ought not to be underrated. Various contingencies may arise that may greatly influence its course, and, as the author says, "with the conditions present in this disease the least neglect may be followed by a fatal termination, while proper intervention at the suitable moment may be at ended with the most brilliant result." A large space is devoted to the treatment, which should preferably be symptomatic, with the object of preventing as energetically as possible a further extension of the inflammatory process, as well as destruction of the tissues.

The chapters on caries and necrosis of the temporal bone, inflammations of the mastoid, the results of inflammation of the middle ear, and anomalies of the Eustachian tube are equally interesting. Multiple incision of the drum membrane the author maintains as the best treatment for excessive tension, as it results in relaxation of the membrane. This is in direct contradiction to the assertion made by Politzer, that the tension is increased by the cicatrization of the incisions. The evidence of these writers can hardly be reconciled except through the surmise that the beneficial results obtained in many chronic cases have been due to a resolvent action induced by the hyperæmia caused by the traumatism, and not to a change in the tension.

In affections of the internal ear the prognosis is usually admitted to be very bad, but after reading the chapters devoted to this subject one feels a certain amount of encouragement to attempt their treatment. Careful investigation has shown that primary affections of the labyrinth are very rare, occurring about four times in a thousand cases of ear disease, and the pages devoted to their consideration contain nearly all that is known about them. Regarding Ménière's disease, the author thinks that this term should either be dropped or limited to cases in which hæmorrhage has taken place into the labyrinth. The diagnosis of such a condition can, he maintains, be made in certain cases by exclusion. The series of phenomena stated by Ménière to be characteristic of the disease appear in various kinds of labyrinthine disease as well as in other affections, both of the organ of hearing and of the central nervous system, and we can not agree with the author regarding the advisability of continuing to denominate this series of phenomena as Ménière's symptoms.

The book is well got up, the illustrations are exceptionally good, and the colored figures in the plates deserve special mention. While the author modestly calls it a text-book for students and practitioners, it is a work of high grade and we cordially recommend it.

Bacteriological Technology for Physicians. With Seventy-two Figures in the Text. By Dr. C. J. Salomonsen. Authorized Translation from the Second Revised Danish Edition. By William Trelease. New York: William Wood & Co., 1890. Pp. 162.

This is a review of the various apparatus and methods in use in bacteriological research, with a description of their nature and modes of working considered according to their individual and relative worth. The subjects are treated of with simplicity and clearness, the author having in view the preparation of an outline adapted to the use of physicians and veterinary surgeons, and one that may serve as a guide to those who are obliged to take up the subject at home without the assistance of an instructor, thus enabling such students to carry out for themselves the fundamental experiments of the most importance in pathology and hygiene.

Twelve Lectures on the Structure of the Central Nervous System for Physicians and Students. By Dr. Ludwig Edinger, Frankfort-on-the-Main. Second Revised Edition, with 133 Illustrations. Translated by Willis Hall Vittum, M. D., St Paul, Minn. Edited by C. Eugene Riggs, A. M., M. D., Professor of Mental and Nervous Diseases, University of Minnesota, etc. Philadelphia and London: F. A. Davis, 1890.

This translation is very creditable to the gentlemen who have made it, and we take pleasure in repeating the indorsement of the original work which was given in this Journal for March 15, 1890. We heartily recommend this book to every one who desires a knowledge of the anatomy of the central nervous system.

BOOKS AND PAMPHLETS RECEIVED.

Self-purification of Flowing Water, and the Influence of Polluted Water in the Causation of Disease (a Biological Study). By Charles G. Currier, M. D., of New York. [Reprinted from the *American Journal of the Medical Sciences.*]

U. S. Department of Agriculture. Bureau of Animal Industry. Special Report on Diseases of the Horse. Prepared, under the direction of Dr. D. E. Salmon, Chief of the Bureau of Animal Industry, by Dr. Michener, Dr. Law, Dr. Harbaugh, Dr. Trumbower, Dr. Liautard, Dr. Holcombe, Dr. Huidekoper, and Dr. Dickson. Published by Authority of the Secretary of Agriculture. Washington: Government Printing Office, 1890. Pp. 556.

Heredity, Health, and Personal Beauty. By John V. Shoemaker, A. M., M. D., Professor of Materia Medica, Pharmacology, Therapeutics, and Clinical Medicine, and Clinical Professor of Diseases of the Skin in the Medico-chirurgical College of Philadelphia, etc. Philadelphia: F. A. Davis, 1890. Pp. xv–422. [Price, $2.50.]

Principles of Surgery. By N. Senn, M. D., Ph. D., Milwaukee, Wis., Professor of Principles of Surgery and Surgical Pathology in the Rush Medical College, Chicago, Ill., etc. Illustrated with 109 Wood Engravings. Philadelphia: F. A. Davis, 1890. Pp. xiii–611. [Price, $4.50.]

On Severe Vomiting during Pregnancy. A Collection and Analysis of Cases, with Remarks on Treatment. By Graily Hewitt, M. D. Lond., F. R. C. P., F. R. S. Edin., Emeritus Professor of Obstetric Medicine, University College, etc. London: Longmans, Green, and Co., 1890. Pp. ix–117.

Annual Report of the Supervising Surgeon-General of the Marine-Hospital Service of the United States for the Fiscal Year 1890. Washington: Government Printing Office, 1890. Pp. 7 to 387.

Transactions of the College of Physicians of Philadelphia. Third Series. Volume the Twelfth.

Hyperemesis Gravidarum as an Indication for the Induction of Premature Labor. By J. Henry Fruitnight, A. M., M. D., New York. [Reprinted from the *American Journal of Obstetrics and Diseases of Women and Children.*]

The Resemblance of Some Forms of Benign Disease to Malignant. By Edward W. Jenks, M. D., LL. D., Detroit. [Reprinted from the *Transactions of the American Gynæcological Society.*]

The Franklinic Interrupted Current; or, My New System of Therapeutic Administration of Static Electricity. By William James Morton, M. D., New York. [Reprinted from the *Medical Record.*]

Authoritative Medical Boards, or Control of the Healers of the Sick by Political Methods. By J. P. Dake, A. M., M. D.

In what Class of Wounds shall we use Drainage? By Henry O. Marcy, A. M., M. D., LL. D., Boston. [Reprinted from the *Transactions of the American Association of Obstetricians and Gynæcologists.*]

Surgical Relief for Biliary Obstruction. By Henry O. Marcy, A. M., M. D., LL. D., Boston. [Reprinted from the *Journal of the American Medical Association.*]

A Cystic Tumor of the Lacrymal Gland. By Matthias L. Foster, M. D., New York. [Reprinted from the *Archives of Ophthalmology.*]

The Report of a Case of a Large Interstitial Fibroid of the Uterus removed by Abdominal Section, with some Observations in Relation to the Most Rational Methods of dealing with Neoplastic Formations which originate in the Muscular Fiber of the Uterus. By Thomas H. Manley, M. D., New York. [Reprinted from the *Brooklyn Medical Journal.*]

Points, Facts, Opinions, and Experiences in favor of the Reception of Voluntary Patients for Care and Treatment in Hospitals for the Insane, and more especially for Care and Treatment in Private Hospitals for the Insane. By Ralph L. Parsons, M. D., New York. [Reprinted from the *Journal of Nervous and Mental Diseases.*]

The Non-operative Treatment of Delayed Union in Fractures of the Leg. By John Ridlon, M. D., New York. [Reprinted from the *Medical Record.*]

The Relation of Life Insurance to Inebriety. By T. D. Crothers, M. D., Hartford, Conn. [Reprinted from the *Journal of the American Medical Association.*]

On Three Cases of Pylorectomy with Gastro-enterostomy. By William T. Bull, M. D., New York. [Reprinted from the *Medical Record.*]

Two Noteworthy Cases of Traumatic Rupture of the Membrana Tympani. By Huntington Richards, M. D., New York.

The Treatment of Arterio-venous Aneurysm, with Two Cases treated by Extirpation. By B. Farquhar Curtis, M. D., New York. [Reprinted from the *American Journal of the Medical Sciences.*]

Operations for correcting the Deformity due to Prominent Ears. By George H. Monks, M. D., Boston. [Reprinted from the *Boston Medical and Surgical Journal.*]

A New Method of Disposing of the Pedicle in Supravaginal Hysterectomy for Fibroid Tumor. With Report of Four Successful Cases. By James R. Goffe, M. D., New York. [Reprinted from the *American Journal of Obstetrics and Diseases of Women and Children.*]

Reports on the Progress of Medicine.

DERMATOLOGY.

By LOUISE FISKE BRYSON, M. D.

Keloid.—In the *Gazette des hôpitaux*, October 11, 1890, Dr. A. F. Plicque endeavors to define the different kinds of keloid and separate them from other skin diseases—such as various syphilides, sarcomata, epitheliomata, etc.—with which they are often confounded. Keloid may develop from such trivial causes—flea-bites, pin-pricks, scratch-marks—that a question naturally arises as to its spontaneous origin. There are, however, authenticated cases due to no external cause. Whether traumatic or spontaneous, keloid requires a special constitutional predisposition for its development. Pathological keloid may follow smallpox, measles, vaccination, lupus, and ulcerative syphilides. Accidental keloid results from burns, particularly the deep ones produced by petroleum, sulphuric acid, and chloride of zinc. Blisters left on too long, croton oil, and thapsia are also potent causes. Their possibilities in this direction far outweigh their advantages as topical agents. Scrofulosis seems rather a favorable soil, for antiscrofulous remedies will often check or cure this particular difficulty. Its frequence among negroes, who also evince a decided predisposition for tubercular phthisis, would seem to bear out this theory. The lithæmic state sometimes underlies keloid. That it exists to a greater extent among the young and among women than among men is probably only a half-truth Women and young people generally try to escape from blemishes, and consequently seek the advice of a physician early. Heredity is an important factor—a fact that points to a possible constitutional origin.

The anatomical and pathological nature of keloid is much in dispute. Alibert classifies it with cancerous dermatoses; Jacobson considers it a particular variety of sarcoma; Tilbury Fox as a tubercular affection; and Hardy as a simple deformity of the skin. To account for it more satisfactorily, Bazin invokes the aid of a special diathesis—the fibroplastic. Erasmus Wilson thinks it a trophic disturbance; Deneriaz, a microbic infection; while Kabler finds a certain relation between keloid and syringomyelia. It has also been suggested that keloid in general is the development on scrofulous soil of what would otherwise be sarcoma, and that it is an illustration of the antagonism of disease. Pathologically, there is no essential difference between the cicatricial form and the spontaneous variety. Embryonic cells penetrate deeply and congregate about the sheaths of vessels far beyond the definite limits of the disease itself. Hence the necessity of extensive ablation in view of total extirpation. True keloid is covered with the papillary layer of the skin, which the cicatricial variety is naturally without. There is also a slight and immaterial difference in the connective fibers of the two forms, but they both belong to the group of fibro-sarcomata. Just here lies an explanation of the benign nature of the disease. As it progresses, the embryonic cells take on the character of definite connective tissue which gradually obliterates the vessels of keloid that in themselves are few in number. Hence the slow development and frequent arrest of sarcomatous elements, of which the essential cells and their nuclei become more and more infrequent and gradually disappear. One close relation to malignant growths, however, is the chronic tendency of keloid to return after removal or treatment.

Pain and discomfort are prominent symptoms. Anything that will relieve these is worthy of consideration. The agent now most in favor is scarification according to Vidal's method. The scarificator, a small, sharp bistoury, is held like a pen between the thumb and index finger. Incisions—perpendicular to the skin and not oblique—are made lightly and rapidly by movements of the fingers and not from the wrist. Quadrilateral incisions are best, extending slightly beyond the area of morbid tissue into the region of healthy skin. This procedure causes considerable pain, which diminishes with each sitting, owing to further division of nerve fibers. The slight hæmorrhage may be arrested by pledgets of absorbent cotton applied with the left hand during the scarifying process. A Vigo plaster is then applied. Union is by first intention, all traces of the incisions disappearing in three or five days. While the operation is slight in itself, antiseptic precautions are absolutely necessary to avert all possible danger of consequent erysipelas. Scarification can be applied about once a week at first, and then more frequently if the surface is extensive. Pain is the first symptom to disappear under this treatment, two sittings having been sufficient to relieve it in a case of Vidal's, where it was so severe that the surface had to be protected from the clothing by a wire breastplate. Brocq recommends electrolysis by means of needles plunged into the tumor to the depth of six or seven millimetres. The current—five milliampères—is passed for thirty seconds. The whole surface is thus gone over, insertions of the needle being as near together as is possible without infringing upon the little white circle that appears upon its withdrawal. On account of inflammatory reaction, it is wise to give only weekly or fortnightly sittings. Perhaps the very best plan of treating keloid locally is to alternate scarifications and electrolysis. The diathetic condition, whatever it is, must receive attention. Quinine, where there has been a malarial element, and salicylate of sodium, in a lithæmic subject, have relieved the pain of keloid.

Calomel Plaster for Syphilis.—The *Boston Medical and Surgical Journal*, November 13, 1890, quoting from the September number of the *Monatshefte für prackt. Dermatol.*, gives a new method of treating syphilis, as described by Quinquand. A four-inch square plaster, containing from fifteen to twenty grains of calomel, is applied to the skin in the region of the spleen and is changed once a week. The plaster is made by mixing ten parts of calomel, three of castor oil, and thirty of diachylon ointment, the mixture being then spread upon a cloth. The author reports good results by this procedure in cases that did not yield readily to other methods. There was some slight soreness of the gums following the use of the plaster. By this mode of application a large and unvarying amount of mercury is kept in the system.

Iodide of Potassium in Urticaria.—The *Revue générale de clinique et de thérapeutique* gives Stern's report of five cases of urticaria that have been treated by means of this agent with the happiest results. Salicylate of sodium, atropine, quinine, and strophanthus were of no avail. Classic remedies failing, iodide of potassium still remains as a promising resource.

Lichen Planus in Neuropathic Subjects.—According to the *Gazette des hôpitaux*, November 18, 1890, Dr. Feulard has recently exhibited two such cases. Both patients, a man and a woman, were hysterical subjects. In the latter, lichen planus followed the course of the median nerve in the forearm. In the man there was a patch about the corner of the mouth that resembled lupus erythematosus, presenting, however, coalescence of papules.

Melanoderma of Nervous Origin.—The *Annales de dermatologie et de syphiligraphie*, October 25, 1890, give a report by Dr. J. Girode of two cases of melanoderma. The influence of the nervous system upon pigmentation and its anomalies has been for some time a matter of record and observation. Abnormal pigmentation has all the outward forms of a neurotrophic activity, due to vaso-motor disturbance. Whether of this origin or brought about by essential change in cell structure, nervous influence upon nutrition is the chief factor in pigmentary changes. Vitiligo (Leloir), lepra, Addison's disease, etc., have been known to follow moral shock. Kaposi's analytical study of pigmentation throws much light upon the subject. In one of Girode's cases the dark discolorations followed in their course the branches of the left brachio-thoracic nerves. In the other, patches existed along the region of the left eleventh intercostal nerve. Treatment was practically without avail.

Leloir's Method of treating Syphilis.—This is to be found in the *Journal de médecine de Paris*, November 16, 1890. Primary syphilomata are treated with mercurial preparations from the first. But mercury is not given internally, as a general thing, until the appearance of secondary symptoms. According to the intensity of the syphilitic phenomena, for fifteen days inunctions of mercurial ointment, containing thirty to sixty grains, are prescribed. At the end of the fortnight the inunctions are discontinued for two or three weeks, according to the requirements of the case, and are renewed again and dropped in the same way for the first ten months. During these periods of active treatment and intervals of repose, care must be taken to treat locally all syphilides with preparations of mercury. Syphilides on the skin require mercurial plasters, and mucous patches solutions and ointments containing mercury. In certain rebellious forms of syphilitic skin eruptions full baths are of great benefit, each containing about one hundred and ten grains of mercury. Perfect cleanliness and general hygiene, particularly the hygiene of the mouth, together with tonic treatment, are of great importance. Country life or a residence at the sea-shore is sometimes imperative. Nothing demands more care and watchfulness than the administration of mercury and iodide of potassium. They are capable of producing grave functional and structural changes. Profound forms of neurasthenia exist that are due to the abuse of specific treatment and to no other cause. The headache, vertigo, loss of memory, change in character, etc., are too often set down to cerebral syphilis. The unwary practitioner increases the doses with disastrous results. It is impossible to exercise too great vigilance in this matter.

At the end of six or ten months, inunctions may be applied for ten days only, at intervals varying from three to six weeks or two months. So much for the mercurial treatment during the first and second year. Diaphoretics must be prescribed, cathartics now and then, and systematic exercise, in order to get the best and prevent the evil effects of mercury. In exceptional cases of persistent headache and pains in the bones that mercury fails to relieve, thirty to forty-five grains of iodide of potassium, to which eight to fifteen grains of bromide of potassium have been added, may be given temporarily.

At the end of the second year treatment varies greatly. If for a certain time there have been no syphilitic manifestations, mercurial inunctions need only be prescribed every three months for ten days at a time, each application containing thirty to forty-five grains of the drug. The inunctions at this period of the disease are to be followed in a few weeks by iodide of potassium in doses of thirty to forty five grains after some one meal. The iodide of potassium must be used every three months for a while during the third year, but must then follow and not accompany mercurial inunctions. Should syphilitic phenomena return at any time, treatment will naturally depend upon their character, severity, and duration. From the third or fourth year onward, as a precautionary measure, it is well to insist upon ten days' mercurial inunction every spring and fall, to be followed by daily doses of thirty to forty-five grains of iodide of potassium for three weeks.

Contribution to the Study of Drug Eruptions.—The *British Journal of Dermatology*, November, 1890, contains Dr. T. Colcott Fox's paper on this subject, which considers the question whether widespread erythematous and vesicular eruptions, arising after the circumscribed (local) external application of certain drugs—such as iodoform, sublimate, belladonna, chrysarobin, arnica, etc.—are to be placed in the same list as the general eruptions following the internal use of these drugs. The toxic effects of many drugs upon the skin have only of late been closely studied, having come into prominence since the introduction of new remedies and the almost universal practice of the antiseptic treatment of wounds. Idiosyncrasy counts for much. The author finds that the majority of cases naturally fall into the following groups:

1. Effects strictly local and limited to those regions with which the drug comes in contact; due directly to superficial local irritation, and occurring without any systemic reaction.

2. Effects also local and due to peripheral action, but not continuous with the site of application of the drug, and radiating for some distance around; occurring with or without systemic reaction.

Of this group there are two varieties: (*a*) in which the eruptions are limited to the seat of application of the drug and a zone or areola around, and (*b*) that in which the eruptions spread continuously from the site of application over a more or less wide area, "like water in blotting paper," to use Dr. Unna's striking expression.

3. Radiating effects due to more central irritation, with or without systemic reaction.

There are also two subdivisions of this group, the first including eruptions which begin locally, from peripheral irritation, and spread, and are followed by the evolution of remotely situated areas due to a central irritation. The second subdivision includes more or less widely spread or generalized eruptions, beginning either near the site of application of the drug or remotely in several places, without local signs, and due to a purely central irritation.

The author concludes, from numerous examples given, that the drugs, in addition to acting as local irritants, set up an eruption when absorbed, by influencing first the local and peripheral ganglia, and at other times the more central ganglia. In the latter instance the eruptions produced by them must be considered similar to those caused by the ingestion of drugs.

The Contagion and Inoculability of Cancer.—In the *Revue générale de clinique et de thérapeutique*, November 5, 1890, Dr. E. Tournier has a paper upon this subject. As physicians in cancer hospitals frequently die of cancer, as married people succumb to it in turn, and the different members of the same household, though unrelated, fall its victims, the possibility of contagion naturally suggests itself. It is well known that animals acquire cancer from contact with man. In Normandy malignant tumors are common. There cancer is more frequent than pulmonary tuberculosis. In one Norman village the proportion of deaths due to cancer is as 345 to every 100,000 inhabitants—three times that of Paris. In a street of fifty-four houses in the village of Saint-Sylvestre-des-Corneilles seventeen have been visited by cancer in less than twenty years, and sometimes twice during that period. In 1884, five persons living on this street suffered from this disease. The village cemetery occupies a portion of the unfortunate thoroughfare, and the houses nearest to it have been the most often invaded. In view of these facts, the hypothesis of remote contagion presents some attraction. Whatever the noxious germ may be, it lies dormant until favorable conditions call it into activity. In this Norman village the disease followed the lay of the land, followed the water-course. The Normans are not water drinkers, but are cider bibbers. In the manufacture of their cider, water from swamps and wells is used, and that from swamps is especially esteemed. Dr. Olivier, of Havre, has found the typhoid bacillus in cider. Why not the cancer germ as well? Water, however, is not the only source of transmission. Contiguity of residence is a factor. Cancer also appears several times in the same house, the descendants of cancerous subjects not only inheriting the domicile, but the pathogenic germs of their ancestors as well. The day may come when the dwelling of any one afflicted with cancer may be as carefully disinfected as that of a small-pox or diphtheritic patient. Inoculation of cancer has been tried by Dupuytren and Alibert in France, by Lebert, Dontrelepont, Billroth, and by Fox, Harley, and Laurence in England, without positive results. At the same time, the most fervent of anticontagionists, Alibert, introduced cancerous particles into his own flesh and died of cancer. Rappin has made careful experiments that prove contagion possible in rabbits, dogs, and chickens. Goujon has found the same thing among rabbits, guinea-pigs, and rats; and Hanau (Zurich) has inoculated two rats with virus of a papillary cancroid in an animal of the same species, with the result of producing the same disease in them both.

Cutaneous Changes in Syringomyelia.—In the *Annales de dermatologie et de syphiligraphie* Dr. George Thibierge has an exhaustive paper on this subject. In syringomyelia, electrical resistance is diminished and cutaneous sensibility for contact and the lightest touch is preserved without diminution or delay. The prick of a pin, however, does not cause pain. Analgesia is so profound as to obliterate the pain of minor surgery and of fractures even. It may be general, but is more often unilateral. Thermo-anæsthesia is usually present, occupying the analgesic zones and varying in degree in different persons. The alterations that take place in cutaneous sensibility are not simultaneous. This dissociation is of diagnostic value in connection with other symptoms, though not pathognomonic of syringomyelia, for Charcot has observed it in hysteria. The sense of touch may also disappear with the pain and temperature sense. Secretory troubles, angeioneuroses of the skin, and trophic disturbances are sufficiently interesting. Hyperidrosis sometimes occupies the region of altered cutaneous sensibility, though its distribution, extent, and duration are variable. Sometimes there is lessened secretion of the sweat glands. The most frequent evidence upon the skin of vaso-motor disturbance is induced urticaria. Syringomyelics are frequently "autographic" or "dermographic," to use popular though incorrect expressions. Persistent redness and infiltration followed mechanical irritation and pin-pricks in a case that Rumpf recorded. Very simple irritation of the skin, such as the application of an electrode, is often followed by red patches. In a case of Schulze's, hyperæmia following mechanical irritation was of abnormal duration and existed along the course of changes in cutaneous sensibility. Sudden œdema over large portions of the body, accompanied by coldness and a purplish hue, is not uncommon. Cyanotic œdema is usually confined to the hands and feet. Soft and elastic tumefactions of varying degree are more frequent. In form and topography, anatomical changes in the integument also vary. They, too, may be general, or confined solely to one part of the body, the hand preferably. General eruptions appear as vesicles and bullæ, and occasionally also assume phlyctenular forms. Skin lesions are now and then the first symptoms of syringomyelia. Yet their presence may be almost indefinitely delayed in certain instances. Vesicular and bullous eruptions may be followed by slow-healing ulcerative processes that leave pure white or pigmented scars. These scars must not be confounded with those produced by burns, an accident to which the syringomyelic is specially liable, owing to abolition of the pain sense. Trophoneurotic ulcers also appear without previous eruption. Keloid following ulcerations is not an uncommon development. Vitiligo is another cutaneous manifestation. Sometimes the hand is rough and furrowed, or the skin glossy and thin. Paronychia occurs frequently. The nail may suffer in other ways. It may be thickened or abnormally thin and friable, and striated longitudinally or transversely. It may also drop out spontaneously. While the bullous and vesicular eruptions of syringomyelia at times bear a close resemblance to various pemphigoid affections—notably the pemphigoid eruption produced by drugs—the coexistence of the diagnostic muscular atrophy will prevent errors in discrimination.

Chilblains.—The *Journal of the Am. Med. Assoc.* for November 1, 1890, says that Dr. Prince A. Morrow is credited with this apparently excellent formula for chilblains :

℞ Acidi carbolici	ʒ j;
Tinctura iodinii	f ʒ j;
Acidi tannici	ʒ j;
Cerat. simplicis	℥ iv.

Misce bene ut ft. ungt.

Sig. : Apply two or three times a day.

Electrolysis in Sclerodermia.—According to the *Gazette des hôpitaux*, December 16, 1890, Dr. Brocq recently presented to the French Society of Dermatology and Syphilography a man with an extensive longitudinal band of sclerodermia upon the right arm. The progress of the disease had been suddenly arrested by the use of electrolysis, the current ranging from ten to fifteen milliampères, and allowed to pass for fifteen or twenty-five seconds. Though not a question of cure, this procedure brought about marked improvement. The band form of sclerodermia becomes of serious import when it extends over a joint, for it impinges upon the integrity of articular movements and health of the tissues. It is therefore of great importance to stay the progress of the disease without loss of time and employ faithfully any agent that will have this effect.

Multiple Pigmented Sarcoma of the Skin (Kaposi).—Dr. J. A. Fordyce, in the *Journal of Cutaneous and Genito-urinary Diseases*, January, 1891, gives a report and illustrations of this sufficiently rare and interesting abnormity, which bears undoubted clinical and histological relationship to sarcomata, yet possesses marked characteristics of its own. Among these may be mentioned the simultaneous appearance on the extremities of symmetrical tumors that are apparently independent of a primary growth, the slight tendency to softening, and the slow course of the disease. The close resemblance this affection bears to other infectious disorders—such as leprosy and syphilis—has suggested to more than one observer that its origin might be found in some infection that had gained entrance into the circulation. Histologically, the only changes noted in the epidermis are a slight thickening of the horny layer and a deep pigmentation of the cylindrical cells of the rete. The papillæ are not well defined, and nowhere is there any ingrowth or proliferation of rete cells. The cutis and subcutaneous tissue are replaced by a new growth that extends from one fourth to one half a centimetre below the surface. This new growth begins directly under the epidermis and is lost in the subcutaneous connective tissue. Under a low power the structure of the tumor is seen to be composed of small fusiform cells arranged in bundles, extending longitudinally, transversely, and obliquely, their transverse sections looking not unlike round cells.

A striking feature of the microscopic picture is the large number of blood-vessels, around and between which are grouped the spindle cells of the tumor, simulating very closely the structure of recent cavernous angeiomata. Active proliferation of the endothelium of some of the vessels takes place, showing several concentric layers of round cells. In one vessel, of almost obliterated caliber, the several innermost layers are made up of round cells, while without these, but still within the vessel's walls, the cells become elongated, and finally spindle-shaped. In a number of these cells, as well as in the spindle cells of the growth, the karyokinetic figures could be seen. Blood pigment, together with partially degenerated corpuscles, is found in the walls of the blood-vessels and scattered throughout the section. There are vessels with exceedingly thin walls, and others that seem to have no proper walls, but communicate directly with the cells of the tumor. The enormous number and peculiar structure of blood-vessels within the growth accounts for the occurrence of blood pigment and degenerate red corpuscles, as well as for the variety of colors presented clinically by the tumors. These are not due to pigment granules within the cells, as in the true melanotic sarcomata that arise from moles or from the chorioid, but have their origin in the hæmorrhages mentioned. The author's examination accords closely with that of Kalindero and Babes, who were disposed to look upon the growths of multiple pigmented sarcoma of the skin as vascular in origin. The prognosis is unfavorable, the majority of cases thus far reported having terminated fatally in from two to five years. Dr. Fordyce's patient has been treated internally and hypodermically for four months with arsenic, without any appreciable action of the drug upon the disease. No additional tumors have developed, and the patient's condition has remained unchanged.

Miscellany.

MEDICO-LEGAL NOTES.

By Henry A. Riley,
of the New York Bar.

Mental Anguish and Damages.—In North Carolina and in some other States the telegraph companies are held pretty rigidly to a liability in case of neglect to deliver a telegram promptly. In some States the liability is merely nominal, permitting a recovery for the amount paid to secure the transmission of the telegram, unless there has been a pecuniary loss, in which case the judgment will be for the loss which is proved. In North Carolina, on the other hand, the person who should have received the telegram has an adequate remedy for harm quite distinct from pecuniary loss, as the following statement of a case will show : A telegraph company received this message : "Come in haste, your wife is at the point of death," but failed to deliver it for eight days, although the place of business of the person addressed was well known and within a short distance of the office of the company. As a result, he was prevented from being present at his wife's death or attending her funeral. Upon this showing of extreme negligence the Court held that he was entitled to maintain an action for the wrong done him, and that, in addition to the nominal damages of the cost of the telegram, he was entitled to recover compensation for the mental anguish inflicted on him by the negligence of the defendant.

It is not often that so extreme a case comes into the courts, and the company deserved to be mulcted in heavy damages, though, if the suit was brought in many of the States, under the present views of the judges, there could only be a recovery for a few cents.

Impostors and the Koch "Lymph."—It was naturally to be expected that the great interest felt in the investigation of the Koch "lymph" would give rise to various impositions upon the public, and they are gradually being noticed in the papers. A case is now reported from Newark, N. J., where a German woman of respectable appearance and great volubility of speech has been victimizing her countrywomen. She goes about offering for sale a compound which she calls Koch's "lymph," and says she brought it from Germany. Among other persons, she called upon a Mrs. Grider and said she had been sent by her friend Mrs. Zeiber, who thought that Mrs. Grider, having consumption, would be benefited by its use. The impostor also said that the "lymph" possessed qualities to beautify the form and face by cleansing the blood. Mrs. Grider paid $5 for two bottles of the compound, and then, thinking she had been swindled, informed the police. The impostor has not yet been arrested.

Must Physicians answer Urgent Calls ?—A paragraph in the daily papers states that a New Haven physician who refused to attend an urgent call because he had a previous engagement has been fined $10. It would be interesting to know the full particulars of the case, as it is difficult to see what obligation there is upon the physician to render services in any case, except that of humanity. We believe that physicians have a legal right to give or refuse their services to any person, but they assume a grave responsibility when they decline to respond to an urgent call, especially if other physicians are not easily accessible. On the ground of humanity such a refusal would be very severely judged both by the profession and by the general public. It is a far different matter, however, to assume that a physician who refuses to answer a call is liable either to a fine or to money damages in a civil action.

The Use of Arsenic in Massachusetts.—The Massachusetts Legislature at the last session directed the distribution of large quantities of arsenic for the purpose of destroying the gypsy moth, and many hundred pounds have been scattered over trees, bushes, plants, and vegetables in a comparatively small section not far from Boston. It is said that not less than three tons of Paris green was used in this way within three months. Ex-Mayor Cobb, of Boston, recently died from poisoning with arsenic absorbed, it is said, from the paper on the walls of the house he had been occupying, and there has been considerable discussion over the dangers incurred by the use of paper, confectionery, and other articles colored with arsenic. An effort will be made to secure legislation preventing the present unrestricted use of the dangerous drug.

The Manufacture of White Lead may become a Nuisance.—In a recent nuisance case in Detroit, where an injunction was sought to prevent the manufacture of white lead, the Court decided against the manufacturers and said: "Neither the fact that the business is carried on in a careful and prudent manner, and that nothing is done by those managing it that is not a reasonable and necessary incident of the business, nor the fact that when the business was commenced the lands in the vicinity were open common will authorize the continuance of a business in the midst of a populous community, which constantly produces odors, smoke, and soot of such a noxious character and to such an extent that they produce headache, nausea, vomiting, and other pains and aches injurious to health, and taint the food of the inhabitants."

A Suit for Fees as a Medical Expert.—In a recent case in this State a physician brought suit to recover for his services as a medical expert on the contest of a will. He was the only witness on his own behalf, and produced letters and telegrams showing employment. These letters were, however, from lawyers acting not only for the defendant but for other persons, and, on the denial that they were acting for the person sued, the Court decided against the physician. This judgment was appealed from, but has now been affirmed. The weight of evidence seemed to be against the physician, and the Appellate Court refused to disturb the verdict

Mortality in Cities in the United States.—The following table represents the mortality in the cities named, as reported to Dr. John B. Hamilton, Surgeon-General of the Marine-Hospital Service, and published in the Abstract of Sanitary Reports for February 27th:

CITIES.	Week ending—	Estimated population.	Total deaths from all causes.	DEATHS FROM— Phthisis pulmonalis.	Yellow fever.	Small-pox.	Varioloid.	Varicella.	Typhus fever.	Enteric fever.	Scarlet fever.	Diphtheria.	Measles.	Whooping-cough.
New York, N. Y.	Feb. 21.	1,663,198	751	....	..	..	..	..	..	3	30	30	18	9
Philadelphia, Pa	Feb. 14.	1,069,264	409	41	..	..	..		..	14	5	13	..	2
Brooklyn, N. Y......	Feb. 14.	853,945	342	....	..	..		..	..	1	10	16	8	6
Boston, Mass	Feb. 21.	448,477	184	....	..	..	..	..	..	1	2	2	..	....
Cincinnati, Ohio.....	Feb. 20.	325,000	108	20	..	..	..	.	..	4	..	3	..	....
San Francisco, Cal...	Feb. 14.	300,000	135	18	..	..	..	..	..	1	..	13	..	....
Detroit, Mich.........	Feb. 14.	250,000	42	....	..	..	..	..	..	..	..	6	..	....
Washington, D. C....	Feb. 14.	250,000	111	....	..	..	..	..	.	3	..	3	3	1
Milwaukee, Wis......	Feb. 14.	220,000	98	....	..	..	..		..	2	..	7	1	....
Newark, N. J.........	Feb. 21.	194,574	64	4	..	..	..	..	..	2		1	..	....
Minneapolis, Minn...	Feb. 14.	164,738	38	....	..	..	..	..	..	1	..	4	.	..
Minneapolis, Minn...	Feb. 21.	164,738	53	....	..	..	..	..	..	..	..	3	..	....
Rochester, N. Y......	Feb. 21.	138,000	50	....	..	.	..	..	..	1	..	..	..	1
Providence, R. I.....	Feb. 21.	135,000	45	....	..	..	..	..	..	1	..	2	..	....
Kansas City, Mo......	Feb. 14.	132,416	28	....	..	..	..	..	..	..	..	..	..	....
Kansas City, Mo.....	Feb. 21.	132,416	31	..	..	..	..	..	..	..	..	..	..	....
Richmond, Va........	Feb. 14.	100,000	34	3	..	..	..	..	..	..	..	..	..	1
Richmond, Va........	Feb. 21.	100,000	37	3	..	..	..		.	1	1	..	.	....
Toledo, Ohio..........	Feb. 20.	82,652	25	...	..	..	..	..	..	..	1	2	..	....
Nashville, Tenn	Feb. 21.	76,369	23	....	..	..	..	..	..	..	.	..	2	....
Fall River, Mass.....	Feb. 21.	75,000	23	...	..	..	..	..	.	..	..	..	..	....
Charleston, S. C......	Feb. 14.	65,165	35	1	.	..	..	..	..	1	..	1	..	....
St. Louis, Mo.........	Feb. 14.	46,000	....	...	..	..	..	..	..	2	1	9	1	3
Galveston, Texas....	Feb. 6.	40,000	12	1	..	..	..	..	..	1	..	..	.	....
Portland, Me..........	Feb. 21.	40,000	12	....	..	..	..	..	..	..	..	..	..	....
Binghamton, N. Y...	Feb. 14.	35,000	20	1	..	..	..	..	..	..	..	..	..	....
Auburn, N. Y	Feb. 14.	25,887	11	...	..	..	..	..	..	..	..	..	..	....
Auburn, N. Y..	Feb. 21.	25,887	15	....	..	..	..	..	..	..	..	1	..	....
San Diego, Cal.......	Feb. 14.	16,000	3	....	..	..	..	..	..	..	..	..	..	....
Pensacola, Fla.......	Feb. 14.	15,000	7	2	..	..	..	..	..	..	..	..	..	...

Estimation of Sugar in Urine.—"In a paper read before a recent convention of German naturalists, Dr. U. Haussmann stated that he had concluded from the results of practical experience that the best method of estimating sugar in urine is by means of fermentation, giving this method the preference over the use of bismuth, copper, or phenylhydrazin. For a qualitative test, the urine should be first boiled, to removed dissolved gases, and, after cooling, introduced with pure yeast into a U-tube, of which the longer arm is sealed, and maintained at a temperature of 35° to 40° C. (95° to 104° F.). A large bubble of gas collects in this arm after two or three hours, even if only 0·05 per cent. of sugar be present. Good quantitative results, according to Dr. Haussmann, may be obtained by a comparison of the reduction and polarizing equivalents, and also of the specific weights of the solution, determined before and after fermentation of the liquid."—*Druggists' Circular and Chemical Gazette.*

Alcohol and Digestion.—"From experiments made on himself by Dr. Eichenberg, some further knowledge of the effect of alcohol on digestion is obtained, which contrasts strongly with the teetotal lecturer's experiment showing how digestion in a glass vessel is retarded by alcohol. Dr. Eichenberg found that a small dose of strong alcohol—*e. g.*, brandy—shortens the time that food in general, whether animal or vegetable or a mixture, remains in the stomach by more than half an hour. A similar but not quite so marked an effect is produced by a dose of dilute hydrochloric acid or mustard. Pepper and condurango diminish the time the food remains in the stomach by about a quarter of an hour. Beer and an infusion of rhubarb had no effect."—*British and Colonial Druggist.*

To Contributors and Correspondents.—*The attention of all who purpose favoring us with communications is respectfully called to the following:*

Authors of articles intended for publication under the head of "original contributions" are respectfully informed that, in accepting such articles, we always do so with the understanding that the following conditions are to be observed: (1) when a manuscript is sent to this journal, a similar manuscript or any abstract thereof must not be or have been sent to any other periodical, unless we are specially notified of the fact at the time the article is sent to us; (2) accepted articles are subject to the customary rules of editorial revision, and will be published as promptly as our other engagements will admit of—we can not engage to publish an article in any specified issue; (3) any conditions which an author wishes complied with must be distinctly stated in a communication accompanying the manuscript, and no new conditions can be considered after the manuscript has been put into the type-setters' hands. We are often constrained to decline articles which, although they may be creditable to their authors, are not suitable for publication in this journal, either because they are too long, or are loaded with tabular matter or prolix histories of cases, or deal with subjects of little interest to the medical profession at large. We can not enter into any correspondence concerning our reasons for declining an article.

All letters, whether intended for publication or not, must contain the writer's name and address, not necessarily for publication. No attention will be paid to anonymous communications. Hereafter, correspondents asking for information that we are capable of giving, and that can properly be given in this journal, will be answered by number, a private communication being previously sent to each correspondent informing him under what number the answer to his note is to be looked for. All communications not intended for publication under the author's name are treated as strictly confidential. We can not give advice to laymen as to particular cases or recommend individual practitioners.

Secretaries of medical societies will confer a favor by keeping us informed of the dates of their societies' regular meetings. Brief notifications of matters that are expected to come up at particular meetings will be inserted when they are received in time.

Newspapers and other publications containing matter which the person sending them desires to bring to our notice should be marked. Members of the profession who send us information of matters of interest to our readers will be considered as doing them and us a favor, and, if the space at our command admits of it, we shall take pleasure in inserting the substance of such communications.

All communications intended for the editor should be addressed to him in care of the publishers.

All communications relating to the business of the journal should be addressed to the publishers.

THE NEW YORK MEDICAL JOURNAL, March 14, 1891.

Original Communications.

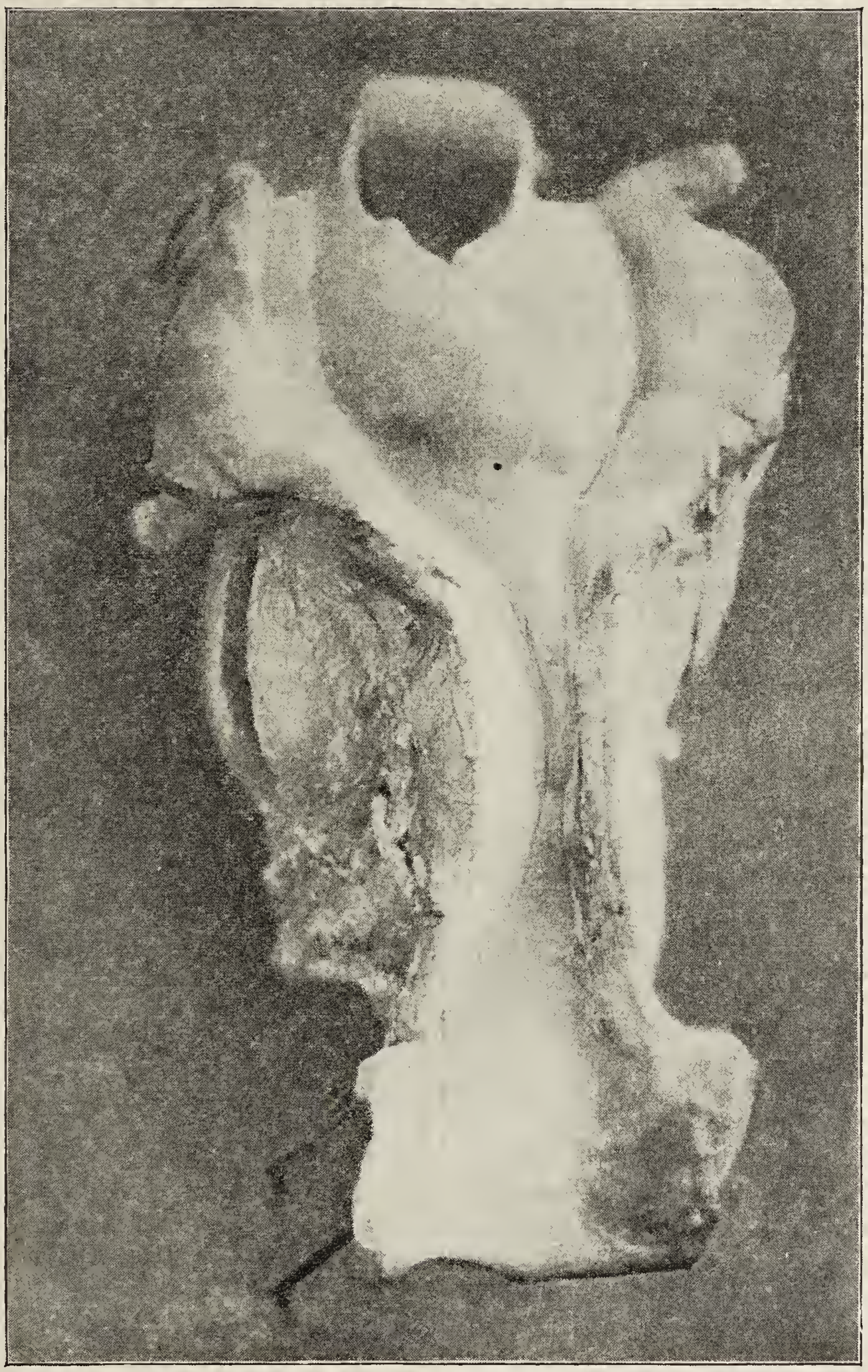
STRICTURE OF THE ŒSOPHAGUS FROM INTERSTITIAL THICKENING OF ITS WALLS;

A FIBROID HYPERTROPHY.[*]

By JOHN O. ROE, M.D.
ROCHESTER, N. Y.

Among the numerous pathological causes that produce contraction or stricture of the œsophagus, interstitial thickening of its walls is of the rarest occurrence.

So rare is it, that by many observers its occurrence is doubted. Fibrous growths have been found in the walls of the œsophagus like those that are found in the uterus or other parts of the body; but I have been unable to find reported a case of interstitial thickening of the walls of the œsophagus where the diagnosis was confirmed by a thorough microscopic examination. Cases are reported where the constrictions of the œsophagus were believed to be due to connective-tissue thickening, but the absence of a microscopic examination renders these observations valueless. The following case, which is in every respect a typical one, can not, therefore, fail to be of special interest.



This illustration is from a photograph taken directly from the specimen.

Mrs. M. A., fifty-eight years of age, was referred to me April 14, 1887, on account of a great difficulty in deglutition from which she had suffered for three months. During the first week in January she began to have much difficulty in swallowing. This difficulty increased slowly until, by the last week in March, it had become impossible for her to swallow any substance whatever. She was at first unable to swallow liquid and solid substances, but moistened semisolid substances she could swallow quite readily. She began about this time to have considerable pain in the back and sides of her neck, and the cervical lymphatics became enlarged and painful. She also expectorated a considerable amount of muco-purulent material.

In the early part of March she was treated by a physician for this obstruction to deglutition with gum-elastic bougies. There was some improvement in swallowing directly after the use of the bougies, but the obstruction soon became as great as before, which necessitated daily dilatation of the œsophagus in order that she might take sufficient nutriment to sustain her. In a short time dilatation of the œsophagus was discontinued, and she was sustained by rectal alimentation. Shortly after this she passed into the hands of another physician, the one who referred her to me.

On examining her throat, there was nothing abnormal to be seen about the pharynx, but in the larynx there was a chronic laryngitis, rigidity of the arytænoid articulations, and almost complete immovability of the vocal bands, which were separated about three millimetres from each other, and afforded sufficient breathing space only when she remained perfectly quiet. The slightest exertion would cause great dyspnœa. On attempting to swallow, substances would drop into her larynx and cause more or less strangling. This was due to the rigidity of the larynx and its inability to close during deglutition.

On examining the œsophagus, the largest instrument I was able to pass was a flexible, conical-shaped bougie, No. 13, American scale. With a small olive-pointed, demi-bulbous bougie I determined that the contraction was cylindrical in shape and projected equally on all sides. It began about two inches below the entrance of the œsophagus and extended for a distance of about two inches, being narrowest in the middle portion. Dilatation gave some slight improvement in deglutition, but not sufficient to enable her to take enough nutriment to sustain her.

---

[*] Read before the American Laryngological Association at its twelfth annual congress.

She had at this time become so weak that she was unable to walk alone. The nutritive enemata were no longer sufficient to sustain her, as they had ceased to be retained. In order, therefore, to administer sufficient sustenance, a small gum-elastic catheter was introduced twice daily, and about a quart of beef tea, eggs, and cream mixed together were injected into the stomach. Oil inunctions were also employed. Notwithstanding this, her debility increased, and on May 1st she died. Her death was evidently due to asthenia.

On post-mortem examination, there was found the condition of rigidity of the arytænoid articulations already described, and a general thickening of the tissues throughout the larynx. There was, however, no swelling of the arytænoids indicative of tubercle.

On examination of the œsophagus, the constrictions of the tube, both in extent and location, were found as already described. The opening through the stricture was sufficient only to permit the passage of an ordinary small sized lead-pencil by using a little force. The circumference of the outer walls of the œsophagus was also found much smaller at this point than at any other portion of the tube, showing that the stricture was not confined to the contraction of the interior of the tube, although the outer contour of the tube was not contracted to the same relative extent as that of the interior of the tube.

On opening the œsophagus by making a longitudinal section through its posterior wall, it was found to be very greatly thickened in the region of the stricture. At the most contracted portion the wall of the œsophagus was from five to six millimetres in diameter, being three times its normal thickness, and gradually becoming thinner toward either end of the stricture. (*Vide* illustration.) On making a section of this tissue, it was so firm to the cut of the knife that I was led to think that it was a scirrhus formation; but, on microscopic examination of this tissue, it was found that the muscular fibrillæ had become degenerated and replaced by a connective-tissue formation.

It was therefore a pseudo hypertrophy of the muscular wall, or a real hypertrophy of the connective tissue. This tissue formation, however, had been thrown out far in excess of the amount of the muscular tissue that it had replaced.

There was, in addition to this disease of the œsophagus, a moderate enlargement of the thyreoid gland, the left lobe being larger than the right, and involving the recurrent laryngeal nerve on that side, but not pressing upon the œsophagus. Microscopic examination of the gland tissue showed the enlargement to be a chronic interstitial thickening of the connective tissue similar to the condition found in the œsophagus.

In an extended search through medical literature I have been unable to find any case of stricture of the œsophagus reported in which a thorough examination revealed a condition exactly like this one just reported. The nearest approach to it is the report of those cases of stricture of the œsophagus caused by hyperplasia of the muscular wall. Two of those cases are reported by Poncet,* and one by Ruppert.† The two cases of Poncet occurred in men fifty-nine and fifty-five years old, respectively. Neither was alcoholic or syphilitic, and to no assignable cause could the stricture be attributed. The first patient had, however, suffered an attack of acute articular rheumatism seven months before the commencement of the difficulty in deglutition.

In both cases gastrotomy was performed. The second patient died eight days after the operation, while the first lived four months and died of suppurative parotiditis.

In the first case the post-mortem examination showed the canal of the œsophagus, just above the cardia, to be almost completely obliterated, only admitting a very fine probe; but there was no lesion of the mucous membrane.

The muscular layers appeared to the unassisted eye very much thickened. The constricted portion, examined microscopically, showed some muscular fibers, irregular and quite generally parallel to the direction of the canal, and spreading out into the surrounding connective tissue. At certain points the muscular cells were disposed in small, circular fasciculi, and assumed a very yellow tint.

The peri-œsophageal tissue was found normal. In the second case a post-mortem examination revealed, a short distance above the cardia, a constriction, forming a ring through which could be admitted an ordinary pen-holder. This ring, which was situated under the mucous membrane, appeared red, hard, and fibrous. On making a section, the strictured portion presented a dense surface, homogeneous and similar to that of the preceding case. The microscopic examination of this case was, unhappily, very imperfect. It showed only the absence of all epithelial lesions, and that the nature of the tissue, where the cuts were made, was largely connective tissue.

The case reported by Ruppert was that of a valet who was admitted to the Hospital of the Infant Jesus, Warsaw, Poland, October 24, 1883. In May, 1883, the patient began to have difficulty in swallowing, which had been preceded a short time before by vomiting blood. This greatly increased, although at times he could swallow much more readily than at other times, owing, it was believed, to an exacerbation of a catarrhal inflammation of the mucous membrane of the œsophagus. For six years before the appearance of this trouble he had been addicted to the excessive use of alcohol, which was, without doubt, the exciting cause of this catarrhal inflammation. After admission to the hospital, dilatation of the stricture was undertaken and continued with some improvement in swallowing, but the obstruction finally increased to such an extent that he gradually failed and died from inanition on November 27th of the same year.

The œsophagus presented a fusiform dilatation which began two centimetres below the tracheal bifurcation, and ended two centimetres above the cardia with a considerable stricture. The longitude of the dilatation was seven centimetres, and the longitude of the stricture two centimetres. The lumen of the œsophagus in the constricted portion was between two and three centimetres in diameter. The thickness of the walls in the dilated portion was two millimetres, and, in the constricted, seven millimetres. The constricted portion of the œsophagus, when cut, appeared as a thick, compact, unpliable tissue, which had the distinct appearance of being chiefly hyperplasia of the muscular strata. On microscopic examination, the epithelium was absent, and only here and there remnants of the mucous membrane were found in the form of fibrous tissue, with abundant infiltrations of small cells. The submucous membrane appears as a compact connective tissue, which is hyperplastic, abundantly vascular, and has many elastic fibers. There was marked hyperplasia of the muscular coat, especially the muscularis externa, and equally in the circular as well as in the longitudinal fibers. The examination proved the existence of ulceration in the mucous membrane of the œsophagus in the constricted as well as in the dilated portion, and an almost complete destruction of the mucous membrane, while a very considerable hyperplasia of the muscular strata and of the submucous tissue could readily be detected.

---

* Sur les rétrécissements de l'œsophage par hyperplasie musculaire. *Bull. méd.*, Paris, 1888, ii, 451.

† Hypertrophy of Muscular Coat, the Result of Chronic Catarrh of the Mucous Membrane. *Gaz. Lek.*, Warszawa, 1884, 2 S., iv, 315.

Ruppert, however, does not state whether the hypertrophy is that of the muscular fibers, that is, a real hypertrophy, or hypertrophy of the connective tissue, that is, a pseudo-hypertrophy, as in the case that I have reported.

Albers * refers, in his work, to cases of this form of contraction of the œsophagus which were observed by Rokitansky and Baillie, where the hypertrophied valves of the œsophagus formed a ring which constricted the lumen at its lower part. Zenker and von Ziemssen,† however, believe, from the superficial description of the cases, that they were only undiagnosticated carcinoma with hyperplasia of the muscular tissue.

The question of ætiology in these cases is an interesting one. It is difficult to believe that muscular hyperplasia, or a thickening of the connective tissue, is a spontaneous formation; but in these cases, in which we have no history of an irritation, we have no indication as to the exact cause of the formation.

In the case of the man addicted to the use of alcohol, whose case is reported by Ruppert, we have a direct relation of cause and effect between the catarrhal inflammation of the mucous membrane of the œsophagus and the muscular hyperplasia.

The cause of the stricture in the case which I have reported is obscure. This connective-tissue formation is the result, in every instance, of a chronic inflammatory process, and it is analogous to the same formation that takes place in the lung tissue in fibrous phthisis. In this case the chronic inflammatory trouble which caused the difficulty is inexplicable. There was no history of any chronic œsophageal trouble previous to the time when this difficulty in deglutition commenced. There was no ulceration of the interior of the œsophagus at this point, and there was no evidence of chronic inflammation in any other portion of the œsophagus. There was no cicatricial tissue in the stricture, and the mucous membrane was entirely intact. The contraction, therefore, could not have been the result of the action of corrosive substances, and there is no evidence that a foreign body lodged there, causing chronic œsophagitis. It was not a simple stenosis of the gullet, for in that case there would have been no morbid changes in any of its component tissue; and a simple stenosis of the gullet is usually a congenital abnormity. There is a possibility, however, that this stricture might have originated from a congenital narrowing of the tube, and the chronic inflammation might have resulted from the continued irritation of the substances forced through it.

---

* *Atlas der pathologischen Anatomie*, Bd. ii, S. 236.

† *Handbuch der speciellen Pathologie u. Therapie*, Bd. viii, S. 32.

LIGATURE OF THE CAROTID AND SUBCLAVIAN ARTERIES FOR ANEURYSM AT THE ROOT OF THE NECK.*

By T. M. MARKOE, M.D.

Ligature of the carotid and subclavian arteries for aneurysm of the innominate and of the arch of the aorta has now been performed by so many persons, and the indications, the technique, and the result of the operation have been so carefully and so intelligently studied, that it would seem that we are ready, in the light of the experience already accumulated, to assign to it its proper position as a surgical resource and to formulate a prognosis which under favorable circumstances might be tolerably accurate and not altogether unfavorable. It must be felt, however, by those who have interested themselves in the various methods which have been proposed for the cure of these aneurysms at the root of the neck, that our knowledge of their nature is not so complete and our skill in their management not so perfect as to leave nothing to be desired or to be hoped for both in regard to diagnosis and treatment, as well as ultimate result. So many points of diagnosis are still obscure and uncertain, so much difference of opinion exists as to the details of technique, and so much doubt as to the probabilities of a favorable issue in any given case, that we may still feel that the subject is worthy of careful and patient study, and that much added experience will be necessary before we can hope to reach a satisfactory solution of all the surgical problems that these cases present.

Without, therefore, having a great success to proclaim, I have felt no hesitation in laying before the society an account of a case in which I have been much interested during the past year, which I think well illustrates some known features of this disease, and which suggests some thoughts which may possibly bear fruit as a larger number of cases of this dreadful disease are intelligently studied and carefully reported.

The patient had been under the care of Dr. W. H. Ross, of this city, and was by him brought to me for consultation. As she had been for years a servant in his family, Dr. Ross was able to give me an account of the early signs and of the later progress of the disease much more satisfactory than can usually be obtained from the patient or from friends; and he gave me also such a true statement of her excellent morale as was of great service to me during the trying times through which she was obliged to pass.

Ann W., aged fifty, colored, was admitted to the New York Hospital, February 5, 1890, with a swelling above the right clavicle which was clearly aneurysmal. She was a well-preserved woman with no ascertainable constitutional taint, either hereditary or acquired. Some five or six years before, a friend called her attention to a swelling in this situation which she herself had not suspected. The swelling gave her no inconvenience and did not seem to increase until about two years ago. Since that time there has been a slow but steady increase, at first without any marked symptoms. During the last year she has experienced pain radiating from the swelling, both upward and downward, accompanied by a sense of tingling along the arm and hand, but without numbness. There was a feeling of oppression about the chest and shortness of breath on exertion, not, however, very marked, but undoubtedly increasing. There was no change in the voice and no proper dysphagia, though at times she felt a choking sensation, lasting only a few minutes. No œdema of the limb and no difference in its muscular power from that of the other side. Otherwise her health was and had been unusually good.

---

* Read before the New York Surgical Society, January 28, 1891.

On examination, a swelling was found above the right clavicle, apparently the size of a lady apple, lying underneath the sterno-mastoid muscle and extending down to and below the right sterno-clavicular articulation. Laterally it protruded into the sternal notch, and it could be distinctly felt outside the sterno-mastoid muscle. The tumor pulsates very strongly with an expansive force which is, in my judgment, entirely characteristic. A very feeble, soft bruit can be heard over the swelling. There seems to be very little if any difference in the radial pulsation of the two sides. Sphygmographic tracings were so imperfect as to be without value. Percussion gave no abnormal dullness below the clavicle.

The diagnosis was innominate aneurysm, probably involving the roots of the carotid and subclavian, but not extending to the arch of the aorta. I am perfectly aware how uncertain such a diagnosis must necessarily be and how often our best clinical observers have found themselves mistaken as to the seat and extent of these aneurysms of the root of the neck. This case, however, was so free from complications and the points of the case were so clear and distinct that I felt tolerably confident in my diagnosis, which was, in the main, confirmed by my colleagues in the hospital. It was considered to be a case suitable for the distal ligature of the main trunks if, after a fair trial of constitutional measures, no favorable result should be reached.

She was accordingly kept in bed and not allowed to assume the upright position under any circumstances. This rendered the use of the catheter necessary for a time. This, however, was in a few days found unnecessary. Her diet was restricted, very much after Mr. Tuffnell's plan, to the following menu: Breakfast, coffee and bread and butter, each three ounces; dinner, milk, meat, and bread and butter, each three ounces; supper, milk and bread and butter, each three ounces. The amount of water taken was limited to the smallest quantity which would prevent her from suffering from thirst. She was given five grains of iodide of potassium three times a day, and after a few days this was increased at the rate of one grain a day until by March 24th she was taking twenty grains three times a day.

The stomach bore the diet very well, and, as she was of a very tractable and cheerful disposition, she seemed not to suffer, either in health or spirits, from her very abstemious regimen; but at the same time no perceptible improvement could be recognized in the condition of the aneurysm. The force of the general circulation was reduced, but the aneurysm still pulsated strongly, and gave no indication of consolidation. The discouraging result of medical treatment seemed to point to operation as our only resource, and accordingly the simultaneous ligature of the carotid and subclavian was determined upon and performed on April 4, 1890.

The operation was performed in the usual manner, the carotid being first tied, and immediately afterward the subclavian. The vessels were easily found and isolated carefully from their sheaths over as small a space as possible, and a single medium-sized catgut ligature was placed tightly about each. The wounds were then closed with continuous suture without drainage, and sufficient pressure was made by adhesive straps and compresses to secure thorough approximation of the walls of the wound cavities. The immediate result of the procedure was, of course, the cessation of all pulsation in temporal and radial arteries, without any sensible diminution of the strength of pulsation in the aneurysm itself. Otherwise the effects of this very serious interference with the circulating fluid were scarcely to be appreciated. She complained of no pain in or about the wound. There was no change in pulse or temperature or breathing, each of which functions was performed in perfectly normal manner. The dressings were left untouched for seven days, and when removed showed the carotid wound perfectly healed, while the subclavian wound was in a less favorable state, the wound cavity being distended by some clots which had, of course, prevented the immediate approximation of its sides. These clots being removed and the cavity packed lightly with iodoform gauze, healing by granulation took place almost without suppuration. She was allowed a more liberal diet, and she was also permitted to get up and move about the ward. On May 14th she was discharged from the hospital.

I give the further history in the words of Dr. Ross, who has kindly sent me his note of her progress since leaving the hospital.

"Leaving the hospital in May, three weeks followed of extreme debility, with much pain in both cicatrices and in the right arm, which was still cold, weak, and pulseless. About one month after the operation she came to me, intending to do light work at will—such as care of child, etc. After two months of this she gave up, feeling unable to go up and down stairs. During this time, after any decided muscular effort, the heart's action was very turbulent; there was some supracardiac pain and some dyspnœa.

"While the indefinable general pain in the right chest, which troubled her so much, had for the most part ceased, there was still pain over and around the tumor.

"After a month or more of rest she called, showing an addition of perhaps forty pounds in weight. At about this time she was given ten grains of iodide of potassium three times a day, which was discontinued, three weeks later, because of bowel and vesical irritation.

"State now and during last month: Pulse, 72; respiration and temperature normal; appetite good; bowels regular. Makes little complaint of pain anywhere. Grip of right hand strong as left. Right arm apt to 'give way' on lifting. Able to wash weekly for her son and self. Occasional palpitation after exertion. Dyspnœa infrequent. Deglutition undisturbed. Visible pulsation less; no bruit, and but little pain over tumor."

I might add to this statement of Dr. Ross that to several of us who examined the tumor some weeks ago, it appeared to have become less prominent and perceptibly smaller.

In presenting this case to the society, it is no part of my purpose to attempt a *résumé* of the large number of recorded cases of this operation, nor an elaborate statistical analysis of the various points connected with the diagnosis, the operative technique, and the therapeusis of aneurysms of the root of the neck. This has been so well done by Dr. Wyeth and Dr. Stimson in their admirable papers published in the *American Journal of the Medical Sciences*, in which they have given us a statistical study of the whole subject founded on the cases which had occurred before the year 1881; and the cases occurring since that date, and up to the year 1885, have been so exhaustively studied by Rosenstein as published in the *Archiv für klinische Chirurgie* in that year, that it would seem that on these points there was nothing more to be said. Recently, however, Mr. Timothy Holmes read a paper before the British Medical Association which covers most of the questions which arise in connection with the ligature of large arteries, which paper was exhaustively discussed by Mr. Barwell, Mr. Bennett May, Herbert Page, William Thompson, and H. O. Marcy. This discussion developed the fact that the discrepancy as to each of the points raised among such distinguished observers would render it impertinent, and certainly unnecessary, for us to go over a field already so well surveyed. A word or two, however, may be permitted, in passing, upon some of these topics before I proceed to the features which I desire in this paper specially to emphasize.

And first with regard to diagnosis. It is recognized by all that this is an extremely difficult and unsatisfactory feature of our subject. As will be readily appreciated, this difficulty lies not so much with the decision of the question of aneurysm or no aneurysm as it does with the ascertainment of the seat and extent of the arterial involvement. As yet I have been able to find no rules which enable us to be certain that a given aneurysm has its seat in the trunk of the innominate, or in the same trunk with a dilatation of the aorta, or in the aorta alone without involvement of the innominate. This difficulty arises from the fact that, whatever may be the point of origin of the disease, we can never predict with certainty the direction in which, as it increases in size, it will tend to extend ; and also from the fact that, in most cases, a large portion of the tumor is found deeply situated behind the clavicle, the first rib, and the sternum, and thus sheltered, it is by just so much removed from our ordinary methods of exploration. Very distinguished observers and very accurate and careful diagnosticians have made most mortifying mistakes in this part of their diagnosis, and from anything I can discover in the recent publications on this point I can see no reason to doubt that, with our greatest caution, these mistakes may be liable to be repeated. It is a curious fact, however, and one which affords some compensation, or at least some consolation for our ignorance, that neither the seat nor the extent of the disease are found to be the important factors in prognosis which they might be supposed to be. Numerous instances are on record in which great benefit has been derived from operation on aneurysms which were found to be much more extensive than they had been supposed to be, and at least one instance has been reported in which an aneurysm of the arch of the aorta not involving at all the coats of the innominate was brought far on toward a cure by the ligature of the carotid and the subclavian arteries in the usual situation. These facts are at present not explainable, but they are nevertheless encouraging.

With regard to the technique of the operation, I have found no recent utterances that are positive enough to be accepted as final. The controversy as to the tight or loose ligature is an old one, and does not seem by any means to be definitely settled. Mr. Barwell's ox-aorta ligature was first brought forward to be used as a flat ligature, by which the arterial coats might be firmly approximated without being otherwise injured. It was hoped that this method of applying the ligature would prove both safer and more certain than that in which, a round ligature being used, the inner and middle coats were cut, the outer or fibrous coat remaining undivided. This method of loose tying has also been tried with the kangaroo tendon and with the catgut ligature by a number of surgeons, and I find that Dr. Senn, in his recent work on *Surgical Pathology*, distinctly indorses it. Whether it is any less dangerous, so far as secondary hæmorrhage is concerned, is not clear, but that it is less certain is shown by several cases in which the loose ligature has, by its softening or the loosening of the knot, allowed the caliber of the artery to be restored after a few days, showing that only a temporary and mechanical obstruction had ever existed. The ox-aorta and kangaroo tendon ligatures have still their warm advocates, but their merits do not seem to command general confidence, and, as far as I can judge, the majority of operators adhere to a medium-sized, properly prepared catgut. The catgut has undoubtedly one serious objection—that is, the uncertainty of its perfect sterilization. This is, as all of us have experienced, a real objection; but it is one which is not insuperable, and already we think we have found methods of preparation which will, if conscientiously employed, render the catgut as perfectly safe as any form of ligature can be made. The silk ligature is still adhered to by some, as, for instance, Sir William Savory. But the fact remains that silk is non-absorbable, and though encapsulation does most commonly occur, yet it can not be denied that it sometimes fails to be perfectly accomplished, particularly if any inflammatory movement goes on in its neighborhood, and that then it is liable to set up suppuration and disaster to the healing process. In short, on each of the details of practice such large differences of opinion still exist among good men and careful observers, as shown in the discussion, already alluded to, of Mr. Holmes's paper in the British Medical Association, that I think it may fairly be stated that the whole matter of technical detail is still to a large extent *sub judice*, and that while individuals may have their strong prejudices—as Sir William Savory for silk, Mr. Barwell for ox-aorta, and Mr. Ballance and Mr. Edwards for the kangaroo tendon—we are not yet in a position to render a final verdict in favor of either one.

Turning now from these unsettled points, it has seemed to me that we have accumulated sufficient experience to enable us to answer the two clinical questions upon which practice must necessarily depend :

1. Is the operation of the ligature of the carotid and subclavian arteries so far devoid of danger to life as to justify its performance in cases of aneurysms at the root of the neck ?

2. Is the benefit resulting from these operations sufficient to warrant us in continuing to perform them ?

To these questions I have felt, after studying somewhat carefully the reports of the operations already placed on record, that we are quite ready for a definitive answer.

First, with regard to the safety of the operation itself, I have collected in all some seventy-two cases in which it has been done, with the result stated more or less in detail. A catalogue of these cases accompanies this paper and embraces all the reported cases I have been able to find, and includes those in which the arteries were tied with an interval between the operations, as well as the much larger number in which the ligature has been applied to both arteries at the same time. And here a difficulty meets us in deciding, in each fatal case, what share the operation has had in bringing about the unfortunate result. It is not easy to disentangle the effects of the operation from those of advancing disease, particularly as the cases are rarely reported in full detail. I have therefore been obliged to select an arbitrary point—say, one month after the operation—and to set down all patients dying within that limit as dying from the effects of the operation, and all those surviving more than a month as dying from the progress of the disease. I am aware that this is not an accurate mode of settling the cause of death, but I believe it to be approximately correct, and I know of no other way of ascertaining the influence of the operation itself on the fatal termination. Taking this as our test, I find that, of the whole number of patients (seventy-two in all), sixteen died within the month, making a percentage of deaths of 22·5. This mortality is certainly large, but the death-rate may be made much more hopeful by dividing our cases into those which occurred before and those which have been recorded since the year 1880. The first division will embrace the cases in which the principles of antisepsis were either unknown or were imperfectly carried out, while the second will contain only cases in which we may suppose that these principles have been applied in the most scrupulous and intelligent manner. This division of the cases is not only a justifiable one, but it is also a very encouraging one. Thus, in thirty cases recorded before the year 1880, there was noted a mortality within the month of ten, or 33⅓ per cent. In forty-two cases gathered since 1880 there were only six deaths, a death-rate of only 14 per cent. Precisely how much of this reduced mortality can be credited to improved antiseptic methods it is not possible to pronounce, but it is certainly encouraging that, with these improved methods, we have succeeded in reducing the death-rate in a ratio represented by the difference between 33⅓ and 14. Even this recent mortality seems large; but, when we consider that the operation is called for in a disease which is necessarily and generally speedily fatal, and when we compare it with some other operations which are considered perfectly legitimate, the mortality figure is really low. Take, for example, nephrectomy, with a death-rate of 40 per cent.; amputation of the thigh, with a mortality of 32 per cent. and upward; amputation at the knee joint, 25 per cent. and upward; kolpohysterectomy, 25 per cent.; splenectomy, over 50 per cent. —all operations fully justified by modern surgical opinion —and we have a showing for the ligature of the arteries which not only to the fullest extent justifies the operation, but gives us good reason to believe that the operative procedure will not often prove a means of hastening a result which it is intended to avert.

With regard to the second question—as to the therapeutic value of the operation—our statistics make, I think, a tolerably definite and not altogether an unfavorable answer. Of course it is understood that perfect physiological cures are not to be expected. All that the most sanguine can hope for is such an amelioration of the symptoms of the disease that the patient is released from most of his pains, and is enabled to perform, in a fairly comfortable condition of health, some of the ordinary duties of active life during a period covering perhaps a number of years. These are the cases that are spoken of in my table as "practical cures," and, unfortunately, they make only a small proportion of the whole number of patients who recover from the immediate effects of the operation. Next to these most favorable cases come a larger number in which the severer symptoms of the disease are greatly mitigated and perhaps temporarily dissipated, so that the patient, though never able to accomplish much of life's duties, is able to enjoy many of life's comforts and some of its pleasures during a period of many months before the disease reaches its fatal issue. These cases are those which are marked "great improvement." Still some other cases flatter us by showing some improvement in certain directions after the operation—an improvement, however, which is only partial and temporary and soon disappears as the disease holds on its relentless course. The degree of improvement in these cases is so variously stated that no very clear idea of their actual condition can be deduced from the reports. Thus some are stated to be improved, others as being able for a time to walk out or to do some light work, others as being freed from pain and oppression, others as gaining strength and appetite and as feeling themselves almost well. There being thus no common point of comparison, we can only say that benefit in some of these forms has been secured by the operation, but, unfortunately, it has proved only temporary, the patients dying of the disease in periods varying from three to twenty months.

Classifying the cases as above outlined, we have, of the sixty-two in which the patients recovered from the operation, "practical cures" in eight, great improvement in twenty-two, some improvement in twelve, no improvement in five, not stated fifteen. With regard to the cases in which no improvement was claimed and those in which nothing is said on the subject, I have been a little surprised to find how unwilling the authors seemed to be to admit that death was the direct result of the operative procedures, yet it can hardly be doubted that, of those dying within a month, in a considerable number, the death was due to or was hastened by the effort which was made to avert it.

To these figures I have nothing to add. With a mortality of 14 per cent., and with the result of great benefit in about 50 per cent. of those recovering from the operation, we have good grounds for considering the operation of ligation of the carotid and subclavian arteries for aneurysms at the root of the neck not only a justifiable but a hopeful procedure, and this more emphatically when we consider the fearful nature of the disease for which it is performed.

No.	Operator.	Place.	Result.	Year.
1.	Palmer.	....	Great improvement.	1879.
2.	C. T. Dent.	London.	Dead 10 days after operation.	1881.
3.	H. W. L. Brown.	London.	Great improvement.	1881.
4.	Howard Marsh.	London.	Dead in 7 weeks.	1881.
5.	Pollock.	London.	Dead in 10 days.	1881.
6.	L. C. Lane.	San Francisco.	Great improvement; lived 10 mos.	1882.
7.	I. Rosenstein.	San Francisco.	Practical cure; alive 2¼ yrs.	1883.
8.	Cameron.	Glasgow.	Well 20 mos. after.	1883.
9.	H. Van Bergman.	Berlin.	Recovery.	1883.
10.	Rich. Barwell	London.	Well 4 mos. after.	1884.
11.	Mitchill Banks.	London.	Dead in a month.	1884.

No.	Operator.	Place.	Result.	Year.
12.	Mr. Alexander.	Liverpool.	Some improvement; dead in 6 mos.	1884.
13.	A. G. Gerster.	New York.	Great improvement; dead in 10 mos.	1884.
14.	I. A. Kelly.	Hyderabad, India.	Improving after 4 mos.	1884.
15.	Hartley.	Leeds.	Practical cure; alive 2½ yrs.	1885.
16.	Praeger.	British Columbia.	Dead in a year.	1885.
17.	Ashhurst.	Philadelphia.	Practical cure; alive 3 yrs.	1886.
18.	L. S. Jameson.	Cape Colony.	Dead in 3 mos.	1886.
19.	Chas. McBurney.	New York.	Practical cure; now alive.	1886.
20.	Gay.	Boston.	Dead in a year.	1887.
21.	Dunlap.	Glasgow.	Practical cure.	1887.
22.	Christ. Heath.	London.	Slight improvement on 51st day.	1887.
23.	Percival.	N. Hampton, Eng.	Great improvement.	1887.
24.	Jessop.	Leeds.	Recovered from operation.	
25.	Jessop.	Leeds.	Died.	
26.	Jessop.	Leeds.	Lost sight of.	
27.	Bennett May.	Birmingham.	Died on 5th day.	
28.	Herman Mynter.	Buffalo.	Well after 3 mos.	1887.
29.	Wharton.	Philadelphia.	Recovery.	1887.
30.	I. A. Wells.	Englewood, N. J.	Great improvement in 4½ mos.	1888.
31.	Dunlap.	Glasgow.	Doing well 10 days after operation.	1888.
32.	I. H. Packard.	Philadelphia.	Dead in 5 days.	1888.
33.	I. C. Warren.	Boston.	Ligatured carotid and axillary; dead in 3 mos.	1888.
34.	F. I. Meriwether.	Asheville, N. C.	Doing well on 27th day.	1888.
35.	Ashhurst.	Philadelphia.	Slight improvement.	1889.
36.	Markoe.	New York.	Some improvement; well after 9 mos.	1890.
37.	I. G. Beany.	Australia.	Interval, 24 days; great improvement.	1883.
38.	I. G. Beany.	Australia.	Interval, 28 days; practical cure.	1884.
39.	Gay.	Boston.	Interval, 7 weeks; dead in a year.	1883.
40.	Bardeleben.	Germany.	Interval, 2 weeks; dead in 6 mos.	1885.
41.	R. Wolff.	....	Interval, 2 mos.; dead in 5 mos.	1883.
42.	Schede.	Hamburg.	Interval; dead soon after second operation.	1884.
43.	Wyeth.	New York.	Great improvement.	
44.	Sands.	New York.	Great improvement.	
45.	Maunder.	....	Death on 5th day.	
46.	Christ. Heath.	London.	Practical cure; lived 4 yrs.	
47.	R. Barwell.	London.	Great improvement.	
48.	S. Fleet Speir.	Brooklyn.	Dead in 34 days.	
49.	Lediard.	....	Great improvement.	
50.	I. L. Little.	New York.	Practical cure.	
51.	Durham.	London.	Dead in 6 days.	
52.	McCarthy.	....	Dead in 15 days.	
53.	Elliott.	....	Dead in 26 days.	
54.	Stimson.	New York.	Great improvement.	
55.	Weir.	New York.	Dead in 15 days.	
56.	Rossi.	....	Dead in 6 days.	
57.	Ensor.	....	No improvement on 65th day.	
58.	Barwell.	London.	Great improvement.	
59.	King.	....	Some improvement.	
60.	Barwell.	London.	Great improvement.	
61.	Barwell.	London.	Some improvement.	
62.	Holmes.	London.	No improvement.	
63.	Lane.	....	No improvement.	
64.	Hodges.	....	Dead in 12 days.	
65.	Ransohoff.	....	Dead in 7 days.	
66.	Barwell.	London.	Dead in 30 hours.	
67.	Mott.	New York.	Interval; practical cure.	
68.	Fearn.	....	Some improvement; interval.	
69.	Wickham.	....	Interval; some improvement.	
70.	Malgaigne.	Paris.	No improvement.	
71.	Bickersteth.	....	No improvement.	
72.	Hobart.	....	Dead in 16 days.	
73.	Lange.	New York.	Lived more than a year.	Abt. 1881.
74.	Wyeth.	New York.	Dead in 48 hours.	

THE USE OF ATROPINE
IN THE TREATMENT OF
LOCALIZED MUSCULAR SPASM.[*]

By WILLIAM M. LESZYNSKY, M. D.,
LECTURER ON MENTAL AND NERVOUS DISEASES AT THE
NEW YORK POST-GRADUATE MEDICAL SCHOOL;
NEUROLOGIST TO THE MOUNT SINAI HOSPITAL AND DEMILT DISPENSARIES.

In a paper read before this society in March, 1884, and published in the *Medical Record* March 25th of the same year, I reported a case of clonic torticollis successfully treated by the subcutaneous administration of the sulphate of atropine. The following is a brief synopsis of the case: Female, twenty-one years of age, unmarried, clonico-tonic spasm affecting the right sterno-cleido-mastoid muscle of nearly two months' duration.

The initial dose was one eightieth of a grain, which was daily increased in amount until on the twentieth day she was receiving nearly the one sixth of a grain (the maximum dose), which was continued in the same quantity daily for four days, when recovery supervened.

No decided improvement was manifested until the injection of nearly the one sixth of a grain. All other treatment was deemed auxiliary to the atropine. In the discussion which followed, it was claimed that, as a number of other remedies (galvanism, bromides) were used in conjunction with the atropine, it would be difficult to determine which effected the cure. From the close observation of this case, I felt confident, and so expressed myself at the time, that the recovery could be attributed to the effect of the atropine. Subsequently the long-wished-for opportunity presented itself, which enabled me to test the efficacy of the drug in a similar form of spasm, untrammeled by the objectionable association of other remedies. I therefore take pleasure in submitting the history of the following case for your consideration and criticism:

Charles C., born in the United States, thirty-seven years of age and a painter by occupation, presented himself for treatment June 2, 1888. Three years previous, muscular spasm began on the right side of the neck, arising six weeks after an abscess had been opened at the angle of the jaw on the right side. The force of the spasm is increased by mastication and closure of the jaw, and it is more active upon mental excitement. He is frequently aroused from sleep by the severity of the paroxysm.

There is no complaint of pain, but only of numbness in the right lower lip. His occupation frequently brought him in contact with lead, but he never suffered from colic or paralysis. There is no history indicative of trauma or syphilitic infection. Formerly, alcoholic excesses. The bowels are constipated, but his appetite is good.

He was treated by means of medicines and electricity for four months without relief.

He is a fairly nourished man of average height. There is well-pronounced clonico-tonic spasm affecting the right platysma, forcibly drawing downward the fascia about the chin and the lower angle of the mouth.

The clonic character of the spasm preponderates, and is almost constant. The muscle is hypertrophied to nearly four times its normal size, and its outline is distinct and well defined. There is an area of complete anæsthesia one centimetre and a half by three centimetres at the vermilion border of the lower lip, near the angle of the mouth on the right side, which extends inward over the mucous membrane and over the alveolar process in the lower jaw.

The mechanical irritability of the facial muscles is well marked. The jaw-jerk is demonstrable. There is no apparent caries of the teeth. There is no abnormity evident in other portions of the body.

Treatment.—A cantharides plaster was placed over the affected muscle.

June 9th.—One week has elapsed since treatment was begun, but there is no improvement in the spasm. The mechanical irritability of the facial muscles has diminished. He sleeps better. Injected $\frac{1}{120}$ of a grain of sulphate of atropine into the platysma.

10th.—Gr. $\frac{1}{100}$.

---

[*] Read before the New York Neurological Society, February 10, 1891.

11th.—Sleeps well, and the spasm is less frequent. Gr. $\frac{1}{100}$.

12th.—Vertigo was complained of half an hour after the injection. He says he is very much better. The exaggerated mechanical irritability of the facial muscles has markedly decreased. There is also some abatement in the frequency of the spasm, which was formerly produced or aggravated by closing the jaw or turning the head to the left.

These movements can now be accomplished with impunity. Sensation is returning in the anæsthetic area. Only one slight spasm occurred to-day. The tonic character of the spasm has entirely subsided. Gave gr. $\frac{1}{80}$.

13th.—Gr. $\frac{1}{80}$.

14th.—Spasm is induced by pressure over the alveolar process in the right inferior maxilla, in the locality of the second bicuspid tooth (which has been lost). Atropine, gr. $\frac{1}{60}$.

15th.—Gr. $\frac{1}{60}$.

16th.—No spasm since last note. Only slight vertigo after last dose. Gr. $\frac{1}{48}$.

19th.—Has been receiving daily injections of gr. $\frac{1}{48}$ without producing toxic symptoms. Injected gr. $\frac{1}{48}$.

21st.—He did not call yesterday. No spasm since last note. Gr. $\frac{1}{48}$.

23d.—No attack. Says he is well. Gr. $\frac{1}{48}$.

26th.—No injection since last note. Spasm has not returned. The most energetic effort fails to produce any spasmodic action in the platysma. Administration of atropine discontinued.

August 18th.—Reports to-day that he has remained free from spasm.

The successful treatment in this case extended over the brief period of two weeks, and was restricted to the daily administration of atropine.

The solution used was—

℞ Atropinæ sulph.................. gr. j;
Aq. destil...................... ℥ j. M.

One minim of this solution represents $\frac{1}{480}$ of a grain of atropine. My method has been to give four minims (gr. $\frac{1}{120}$) at the first injection, and to be on the alert for constitutional effects. Upon discovering that there is no idiosyncrasy in regard to the drug, it is administered once daily, and the quantity gradually increased from day to day until the desired effect is produced or intolerance is established.

The production of severe constitutional symptoms is not an essential feature in this plan of treatment.

One of the experimental physiological effects of the drug, when given in sufficient quantity, is to paralyze the motor nerves, first affecting their trunk.

I am not prepared to say whether the atropine relieves the spasm through its constitutional action and its ultimate paralytic effect upon the motor nerve trunk, or by its immediate local action.

It seems to me, however, that, by injecting the fluid directly into the substance of the muscle, it is not so rapidly absorbed, and thus has ample opportunity to act locally upon the intramuscular nerve elements. There appears to be no ground for the assumption that the atropine possesses an elective affinity for the hyperkinetic area after its absorption into the general circulation. This remedial measure deserves a fair trial in analogous cases before resorting to surgical procedures, such as nerve stretching or tenotomy, the results of which are not always encouraging.

The improvement in the following case of facial spasm seems worthy of note:

On the 29th of May, 1888, I was consulted by M. M., a widow, fifty years of age, who stated that for nearly a year the left upper eyelid has been tremulous. Facial spasm developed four months ago. It is worse in wet weather and upon mental excitement. The cause of the spasm is unknown. She has suffered from occasional vertical cephalalgia during the last two years. Climacteric three years ago. She received galvanic treatment for six months without any perceptible change. There is constant tremor in the lower segment of the orbicularis palpebrarum, also frequent clonic spasm affecting all of the left facial muscles. There are no teeth in the left upper or lower jaw. They were lost during pregnancy. No tenderness over the alveolar processes. No spinal tenderness. The pupils are small, but react normally both to light and in accommodation. Hypermetropia, 2 D. No fundus lesion.

She was kept under observation until June 9th, when she received the first injection of $\frac{1}{120}$ of a grain of atropine. The needle was introduced deeply into the tissues of the face, near the exit of the facial nerve at the stylo-mastoid foramen.

June 10th.—The spasm is a little more frequent, but weaker. Gave injection of five minims.

11th.—Face was flushed for nearly two hours after the injection. There is decided improvement. ♏ v.

12th.—Flushing of the face and dryness of the mouth and throat all of yesterday afternoon. She says she is much better, and the improvement is evident. ♏ vj.

13th.—♏ vij.

14th.—Doing well. ♏ viij (gr. $\frac{1}{60}$).

15th.—♏ ix.

16th.—♏ x. Spasm in orbicularis palpebrarum is quite noticeable, but feeble.

19th.—Has had daily injection since last note. Much improved. The only symptoms following the injection are flushing and headache, which subside in a few hours.

Since beginning the use of atropine I have never witnessed a well-marked facial spasm. The orbicularis palpebrarum is mostly affected, but not so much as formerly. Tremor has taken the place of the spasm in the other muscles. ♏ xij (gr. $\frac{1}{40}$).

23d.—Daily injection since last note.

30th.—She says she has an occasional spasm, as before, but neither so severe nor so frequent. ♏ xv.

October 13th.—She reports to-day, having discontinued treatment, and states that thus far the improvement has been permanent.

It is well known that, in this peculiar and obstinate affection with an obscure pathology, remissions occasionally occur independent of treatment.

The improvement, however, in this case was sufficiently encouraging to commend this method of treatment for further trial.

61 EAST SEVENTY-FIFTH STREET.

Foreign Degrees in Illinois.—The Illinois State Board of Health has decided that hereafter it will recognize no foreign diploma that does not confer upon its holder the right to practice medicine in the country in which it was granted. The holder of an Austrian, German, Russian, or Swiss diploma, wishing to practice in Illinois, must hereafter pass an examination before the board, unless he has a pass certificate from a government examining commission. The holder of a Canadian diploma, unless a licentiate of the College of Physicians and Surgeons of Ontario or Quebec, must pass an examination in order to be licensed in Illinois.

A CASE OF CÆSAREAN SECTION
MADE NECESSARY BY A CONTRACTED PELVIS.*

By J. N. BARTHOLOMEW, M. D.,
TRENTON, OHIO.

On September 17th last I was called to Springboro, Warren County, Ohio, to perform Cæsarean section on a deformed woman in labor.

The patient presented the following history: Mrs. E., aged seventeen, white, German descent; height, five feet four inches; weight, one hundred pounds. Had rhachitis when a child, on account of which she did not walk until six years of age. Had been married two years, and had had one miscarriage, at one month, a year ago.

The patient had, when I first saw her, been in labor twenty-four hours. Her general condition was good; labor pains hard and almost constant. The deformity consisted of an exaggeration of all the normal curvatures of the spinal column, and especially of the lumbo-sacral curvature. The tibiæ were also abnormally curved. Digital examination revealed a pelvis abridged in its antero-posterior diameter to two inches. This contraction of the pelvis was due to an encroachment of the sacrum on the pelvis, a projecting forward of the promontory of the sacrum. By reason of this deformity the uterus was lifted so far out of position that the os was reached with extreme difficulty.

The os was patulous and dilated sufficiently to admit the examining finger. The membranes had ruptured spontaneously twelve hours previously. The head, of course, could not enter the pelvic strait, neither could it be reached with the examining finger. The presentation was a vertex, as was determined by external palpation. It was difficult to determine whether the child was living or dead. By repeated auscultation, no fœtal heart could be heard, no motion of the fœtus elicited, and no evidence that the child was living produced. Supposing the child to be dead, embryotomy, and subsequent delivery of a seven-pound fœtus through a pelvis contracted to two inches, is, if not practically impossible, a procedure attended with scarcely less danger to the mother than hysterotomy.

With the preceding conditions before us, hysterotomy seemed the most promising procedure. The operation being decided upon, the patient was placed on the table, etherized, abdomen thoroughly sponged with a five-per-cent. solution of carbolic acid, and the bladder emptied. An incision was made through to the peritonæum from a point an inch below the umbilicus to within an inch and a half of the pubes. The slight hæmorrhage was arrested, and the peritonæum opened for the same distance on a grooved director. This incision was five inches and a quarter in length.

A four-inch incision was then made in the uterus on the grooved director, as near the fundus as possible. Very little amniotic fluid was found remaining in the uterus, and by a slight manipulation a living child was removed. The placenta was still quite firmly attached to the fundus, but was easily detached and removed, together with the membranes.

The hæmorrhage was severe, and proceeded both from the placental site and from some small vessels in the wall of the uterus, divided by the incision. The uterus was lifted out of the abdomen and was pressed between my hands, by which manœuvre the bleeding was readily controlled. Three vessels in the incision were ligated, although it is doubtful if this was necessary, as they bled only when the edges of the cut were everted. It has been suggested that a rubber band be passed tightly around the neck of the uterus at a point opposite the internal os by which to control hæmorrhage. Because of the displaced and crowded condition of the organs in this case, such a proceeding would have been most difficult before the removal of the fœtus, and was unnecessary after, as the hæmorrhage was readily controlled in the manner above indicated by gently compressing the uterus between my hands until uterine contraction took place.

The uterine cavity was then flushed out with a saturated solution of boric acid, and the incision closed with previously sterilized catgut sutures, placed half an inch apart, in such a manner as to bring together the everted peritoneal edges; this was not easy to do because of uterine contractions. The incision in the uterus being closed, the abdominal cavity was flooded with a saturated solution of boric acid at a temperature of 103°, and thoroughly mopped out by sponging.

The abdominal incision was then closed by two rows of silk sutures, the first of fine silk closing the peritonæum, the other including all the tissue down to the peritonæum. A small fenestrated soft-rubber drainage-tube was then inserted about the lower third of the abdominal incision, entering at the lower angle of the uterine incision, passing out through the os and vagina. The external wound was dressed with iodoform gauze, secured with adhesive strips, and a body bandage applied.

The time consumed in the operation was sixty-five minutes, the uterus being emptied in twelve minutes. The pulse at the beginning was 90, at the end 130, and at one time during the operation rose to 150. The shock was very great, but the patient reacted quickly and well. Quarter-grain doses of morphine were administered hypodermically every three hours, and whisky and milk.

When I next saw the patient, forty-eight hours after the operation, her condition was as follows: Face bore an anxious, pinched expression, tongue furred and dry, abdomen very tympanitic and intensely painful to the slightest touch, legs drawn up, pulse 130, temperature 103°. In short, the patient presented the general appearance of rapidly advancing peritonitis. The abdominal cavity, uterus, and vagina were thoroughly flushed out with a saturated solution of boric acid at a temperature of 105°. Internally the morphine was continued, ten grains of quinine twice daily, a half ounce of whisky every three hours, and milk. This internal treatment was continued for ten days. The bowels were moved with an enema on the third day, and irrigation was kept up twice daily for ten days. The drainage-tube was removed on the thirteenth day.

The after treatment was in charge of the resident physicians, Dr. R. S. Michel and Dr. J. A. Johnson, of Springboro, and to their careful and constant supervision is largely due its successful termination.

The recovery was uninterrupted, and the patient, when last seen on the twenty-fifth day, was practically well. The child, a healthy, vigorous female, was put to the breast on the seventh day; but, owing to a faulty condition of the nipple and lack of persistence on the part of the nurse, lactation was not established. The child at birth weighed seven pounds, and still lives and thrives.

The use of a drainage-tube is, so far as I have been able to ascertain, a deviation from the usual method of after-treatment in Cæsarean section. It would seem that a case of surgical peritonitis was prevented in its onset by the daily irrigations which were begun forty-eight hours after the operation. The flushing out of the abdominal cavity and uterus at this time was followed by immediate and most marked improvement in the patient's general condition, the temperature falling in six hours from 103° to 100°, and the pulse from 138 to 120. The tympanitic condition steadily diminished, and had entirely disappeared by the seventh day.

---

* Read before the Southwestern Ohio Medical Society, at Cincinnati, October 18, 1890.

Would it not seem that the solution of the problem of reducing the frightful mortality of this grave and hazardous operation, which is now about seventy-nine per cent., might consist in a better understanding of the proper management of surgical peritonitis?

A REPORT ON
TYPHOID FEVER AT FORT SAM HOUSTON, TEXAS.

By OGDEN RAFFERTY, M. D.,
ASSISTANT SURGEON, U. S. ARMY.

(Published by authority of the Surgeon-General.)

During the absence of the troops at the target range at the Fair Grounds of San Antonio, Texas, the garrison was thoroughly policed, and the privies in the rear of the barracks were cleaned, the floors cemented, the walls washed and disinfected, and instructions given for a complete removal of the sewage by the dry-earth system, with final disposition at the new Government Crematory. The hospital was cleaned, and the tents erected in the yard for the sick were supplied with additional air spaces by means of poles and tent-flies, over which, in the heated part of the day, a continuous spray was caused to play.

Notwithstanding the precaution taken, on the return of the soldiers (July 13th), after an absence of seven days, the sickness continued and increased with a marked ratio. Toward the latter part of July some of the hospital cases, that at first were believed to be remittent fever, began taking on typhoid symptoms. At this time considerable trouble was experienced in arriving at diagnoses, owing to the absence of diarrhœa and delirium and the beneficial results obtained from heroic doses of quinine and brandy. Later in the summer the true state of affairs became apparent, the thermometric charts showing clearly that the febrile cases were cases of true typhoid. Dismissing at once the various theories that have proved so perplexing in locating the cause of this sickness, we will consider the one that, on mature deliberation, seems to be the most probable.

On consulting the register, it will be found that but one of the twenty-eight cases diagnosticated as typhoid fever antedates the encampment of the soldiers with the State troops at the Fair Grounds, and more will be written of that case later. Not only do the San Pedro Creek and Acequia, but also the Alamo Acequia and other streams empty into the river above the Fair Grounds. To prove that typhoid fever was positively present at the time in the city, you are invited to consult the statements of mortality furnished by the city Board of Health. During the month of June, 1890, there were four deaths from enteric fever, in July seven, in August twelve. Now, taking the lowest percentage of deaths that occurred during several epidemics, as furnished by Dr. Austin Flint, which was sixteen per cent., one can readily see that there must have been at least one hundred and forty-three cases in the city during the summer, and, considering our own twenty-eight cases, with two relapses, without a death, the figures are probably below the actual number.

The history of all our twenty-eight cases, with five exceptions, shows that these men were at the encampment, that they used the water taken from the river for drinking and cooking purposes before the pipes from the reservoir were brought into the camp, and that during the whole encampment they frequently bathed in the river. Five of the men whose cases were diagnosticated as typhoid fever were not at the encampment, and, so far as can be learned, drank nothing but reservoir water that was taken from the pipes of the city water-works.

For our own convenience, let us review the histories, briefly given, of four of these cases:

Case I.—Private R. L., Troop H, Third Cavalry, at the time of the encampment was left at home to guard the corral. During this time he slept under a floorless shed in the corral. He did not visit the encampment, though he frequently went to town and drank beer freely. On returning to the barracks he was taken sick, and was admitted to the hospital on July 25th, with typhoid fever.

Case II.—Musician F. B. W., Company E, Twenty-third Infantry, at the time of the encampment was left behind sick in quarters with chills and fever, which he had contracted while at camp on the target range the month before. On August 13th he was admitted to the hospital, and was in bed nine days. He has been troubled frequently since with intermittent fever.

Case III.—Private J. S., Company F, Twenty-third Infantry, at the time of the encampment was in the hospital with an injury of the leg. He was returned to duty on August 1st, and was again admitted on August 11th, having been overcome with the heat while walking guard. His case also was diagnosticated as typhoid fever.

Case IV.—Private J. C., Troop D, Third Cavalry, on July 5th began a six months' sentence at the guard-house. He frequently slept on a damp floor. On August 14th, after a hard chill, he was admitted to the hospital with a high fever, and his case was diagnosticated as typhoid fever.

On looking over the fever charts of these four cases and taking into consideration that, with but one exception, these fevers were broken in eight days, it can readily be seen that these were cases of remittent fever.

Nor is the history of the fifth case altogether satisfactory. Private A. W. P., Company H, Twenty-third Infantry, states that in 1882, while at Brownsville, he was troubled with dyspnœa on exertion, and had several attacks of hæmoptysis, this continuing, with few exceptions and some variations in frequency at Fort Clark and Fort Concho, till a year ago, when night-sweats began. In March last, while encamped on the target range, he caught a bad cold and spat up large quantities of blood-stained sputa. On June 25th he was admitted to the hospital with fever and headache, having felt badly for two weeks prior to his admission. During his sickness in the hospital his sweating was profuse, and he had one hæmorrhage that occurred from the lungs and lasted seven hours, his condition at the time being one of coma vigil. Finally he was sent to duty, after a tardy and tedious convalescence, but at the present time is again in the hospital, complaining of pleuritic pains of the right side. Physical examination of his chest on the 18th of November showed dullness over the middle lobe of the right lung, with increased vocal resonance. Taking the previous history with the present, this may have been a case of pneumonitis, and probably one of acute miliary tuberculosis.

Having found, of the five cases in men that were not at the encampment with the militia, that four were remittent fever, and that a reasonable doubt may be expressed in the diagnosis of the fifth case, your attention is invited to a consideration of the following well-known facts:

1. That, with the above-mentioned exceptions, every man with typhoid fever was at the encampment and drank the river water. 2. That typhoid fever was present at the time in the city. 3. That the city is without a system of sewerage. 4. That it is a common sight to see the Mexicans washing clothing in the river and creek that flow through the city. 5. That these acequias flow through the yards of many ignorant people. 6. That the encampment was below the junction of all these water-courses with the river. 7. That the city water-works, which are at the head of the San Antonio River, are on grounds from which the public are excluded.

After a consideration of these data, together with the knowledge that not a case occurred among the Light Battery men who were present at the encampment, but forbidden to use any but the hydrant water, you will agree with me, probably, in attributing this sickness to the water taken from the river during the encampment with the State forces at the Fair Grounds.

Before closing this report it is but just to state that, at the present writing, my information in regard to the effect of the water upon the State forces is unsatisfactory, and it will probably be impossible to collect any accurate information before the meeting of the State forces at the next annual encampment.

DEATH FROM BRAIN DISEASE WITHOUT SYMPTOMS.

By S. S. TURNER, M.D.,
ACTING ASSISTANT SURGEON, U. S. ARMY.

A SOLDIER apparently in perfect health, and in regard to whom no companion, after the event, could recall anything which indicated either mental or physical ailment, was reclining upon a bench in the shadow of his barrack, reading a newspaper. Without previous sign or warning, in the presence of his companions, he rolled off the bench in a severe epileptic fit, was placed upon a stretcher, and brought to the hospital—dead.

This soldier, it may further be stated, had left the hospital but a few days before, after several weeks of treatment for a gunshot wound of the forearm, received in an attack by robbers upon a paymaster's escort. The wound was a simple flesh-wound, extending some half the length of the forearm, but touching no bone.

The soldier, during his stay in the hospital, seemed to be in perfect health mentally and physically beyond the wound referred to, and never complained of pain or other symptom in the head.

I examined the brain some hours after death. Its membranes were normal in every respect, and the same was true of the surface of the brain itself. At least, nothing abnormal appeared to the eye or to the touch.

Beginning at the cerebellum, I made thin sections of the entire mass without finding any indication of disease until the frontal lobes were reached. In the center of the anterior portion of the left frontal lobe, imbedded in the white substance, I found an abscess with thickened or condensed walls, containing about a drachm of thick, greenish-yellow pus. Surrounding this were three or four smaller abscesses, exactly similar in character, each containing only a few drops of pus. There was no extravasation anywhere, the walls of the abscesses appearing more dense than the surrounding white structure.

The impulse to report these simple facts as a problem for neurologists has frequently recurred, but been set aside for "a more convenient season." The subject is brought up now by reading that masterly paper in your issue of January 10, 1891, by J. Richardson Parke, Ph. G., M. D., Does Medical Science tend to Materialism? The case appeared to me to support Dr. Parke's "clinical fact that a brain physically defective may still render possible the normal processes of mentality," while it would also serve as an excuse for some remarks suggested rather upon the psychic than upon the scientific side of the question raised.

That the study of medical science in its physiological and biological aspects tends toward materialism appears to be a fact, but why this should be so is not so apparent. Something may be due, however, to the character of our early religious instruction. Before we even enter school we have it instilled into our minds: 1. That about six thousand years ago God created the earth and all things therein in the space of six days. 2. That the Bible is the inspired word of God, word for word, communicated by him to his prophets and apostles. These two propositions will suffice. To go further might be to poach upon theological ground.

Upon the very threshold of knowledge and science we have to unlearn these two things. In regard to the first we conceive that the *modus operandi* of God's creation must have been something vastly more beautiful, prolonged, and scientific. In regard to the second, we conceive a religious literature, inspired, we will say, but impressed with the individuality of many different minds—individualities as distinct as those of Scott and Dickens, Byron and Tennyson, or Patton and Irving—and yet our accepted and only inspired record of religious evolution of a race.

It is a matter of observation that many minds, lacking, doubtless, in the qualities of reverence, when once the structure of their infant catechism is assailed, let go the whole fabric of God and immortality as having no other basis. Hence, I say, our early teaching may be at fault, and the wise may well consider whether we have not reached that point in the evolution of the race and of knowledge when babes may be fed on stronger religious diet.

Why should not *Nature* be accepted as the strongest possible evidence of a Supreme Intelligence who orders and governs the universe—a universe so sublime in arrangement and extent, even to our limited knowledge, that it would seem impossible to separate it from the thought of an ordering intelligence? The allegory of Genesis has had its usefulness and is to be cherished as a sacred record, but to me it is crude and commonplace beside the evolution of matter and mind, and the phenomena of animal and vegetable life. Instead of destroying, they do but magnify the power and glory of that great First Cause,

"Whom we call God,
And know no more!"

But the point to which I wished to refer more especially is the universal instinct of humanity which proclaims both supernatural origin and immortality for the race. It is not a matter of education. Education may determine details of creed and of worship, but all races, in every stage of development, and whether monotheistic or polytheistic, ascribe to themselves a supernatural origin and an immortal destiny. Whether the destiny be a land of flowers and streams and pleasant shades; a plain teeming with game to be hunted; or a palace paved with gold, lined with jasper, and hung with harps, it is born with the race and lives with it, however much it may be modified by that process of evolution which we call civilization.

Ought not this fact to be accepted as an argument of great weight against the ultra materialism of man, and in favor of an immortality differing from the mere immortality of matter, which constantly changes form but does not perish—an immortality, in short, of that element of intelligence which we call the soul—

"Call it soul,
And know no more"?

There is a "consciousness" of God and immortality in the minds of men which relatively few are able to banish. Why should not physicians, of all men, cherish the "divine guest"?

THE CONSEQUENCES OF AN EXPERIMENT WITH HYPNOTISM.

By JULIUS SOLOW, M. D.

The patient the course of whose sickness I am about to give the history of stands in near relation to me, and I have therefore had an opportunity to study and observe his symptoms closely. I consider the case worthy the attention of the profession.

Mr. S., a resident of Manchester, N. H., was visiting a neighboring family in that city on October 25, 1890. The conversation turned upon hypnotism, and a friend proposed to try to hypnotize S., who expressed himself willing to submit to the experiment. The hypnotizer handed him a diamond ring, which S. held before his eyes for the space of about fifteen minutes, when he commenced to tremble throughout his body and nearly fell asleep. He was awakened, however, by the laughter of the company present. A second attempt was made in the same manner, the hypnotizer standing behind him and making continual passes around his head. Again the experiment nearly succeeded, but he was again awakened by laughter. On the third trial he was seized with violent trembling of the arms, the ring fell from his fingers, and he commenced to shiver. He fell off the chair upon which he was sitting and rolled on the floor, jumped up and became merry, laughed, joked, and sang. While he was in this condition he was suddenly seized with violent convulsions, upon the subsidence of which he had aphasia; in about ten minutes he became cataleptic, his entire body, with the exception of his arms, becoming rigid (his arms were movable throughout nearly the whole course of his sickness). In about fifteen minutes the rigidity disappeared and the patient got up and seemed to be in a normal condition. During the next two days the convulsive attacks, the aphasia, and the stiffness of the muscles recurred so frequently that the free intervals were few and of short duration. He would lament and utter the most horrible cries, and the sight of anything that glittered, such as a looking-glass or a piece of bright jewelry would excite him almost to madness.

I was telegraphed for, and arrived in Manchester on October 27th. I found the patient in the room in which the experiment had been made. The floor of the room was covered with cushions, and nearly all the furniture had been removed; this was to prevent him from injuring himself, as he frequently threw himself from the sofa on to the floor. The physician who had been called at first had given him chloral hydrate, which had had the effect of producing sleep for about two hours during the second night. An attempt by the physician to control an attack of trembling by force had so offended the patient that he had hallucinations in which he saw the doctor, and would rage violently against him. I at once ordered the patient taken to his own house. He was placed in a darkened room and an ice-bag applied to his head. This had the effect of relieving him somewhat, and he frequently asked for ice or ice-water. Morphine was administered to produce sleep; but after sleeping about two hours he awoke with a terrible cry for help, and seemed to suffer intensely. Soon convulsions set in, during which his arms were twisted around each other for five or ten minutes. This was followed by stiffness of the body and aphasia.

In response to a telegram asking advice, Dr. E. C. Spitzka recommended that morphine be continued, and also that sulphonal, in forty-grain doses, be given, if there was no heart complication. The heart seemed to be all right, but, as the patient confessed that he was a masturbator, I gave him thirty-grain doses, and he slept for many hours. The employment of massage for the stiffness of the muscles was productive of such great relief that the patient, in his joy and the belief that I had restored him from a condition of dead immovableness to life by this means, gave me the title of "God."

As was remarked in the early part of the history of the case, the arms were usually free from stiffness, but occasionally when the patient elevated or extended his arm he could not at once lower it; this, however, lasted for only a few minutes at a time. Attacks of aphasia, lasting from eight to ten minutes, always followed the act of defecation. On the seventh and eighth days the patient's condition was much improved, in that the free intervals were of longer duration and the convulsive attacks recurred with less severity. At about this time he commenced to complain of pain in the frontal region, and had regular attacks of intense headache, during which he uttered loud lamentations. The headache was relieved by pouring ice-water on the forehead. Sometimes he awoke with the cry "Fire, pour," which was a signal for the nurse to pour ice-water on his head.

From the tenth day on, the violent convulsive attacks disappeared to a great extent, but in their stead he had attacks of singing, and sometimes of lamenting. While singing, his consciousness seemed to be obscured, as with a light mask. He would sing all the songs he had ever heard or sung before, with the correct melody for each. When he reached the last song he would awake as from a sleep. As long as one song remained unsung it was impossible to stop him, and if he lost the thread of a song he would begin at the first and go through with them again, continuing to the last. Sometimes he lost all knowledge of the languages with which he was familiar, with the exception of one. Then he would speak German, or English, or Russian, or French, as it might happen; after a few minutes he would forget the language last spoken and another would take its place.

At this time (tenth day) his condition was such as to allow of his being taken to New York. On arriving, I consulted Dr. Spitzka again, and by his advice the patient was ordered to leave his bed and dress himself; but frequently, while standing or sitting or walking, he would fall asleep (lethargy) or have slight attacks of singing or of aphasia, or fall down and become rigid. These attacks were usually broken up by shaking him two or three times. The patient was taking frequent doses of bromide of potassium with bromide of sodium in large doses; this treatment had been kept up for some time.

After two or three days of a relatively good condition the patient suddenly became chilly and had a temperature of 103·5° F. He was again put to bed, and under the influence of antipyretics the temperature sank to normal on the next day. For two days and two nights after this he sweat continually, after which he again felt well, left his bed, went out, had a good appetite, and for eight days was in nearly a normal condition. At night his respiration was asthmatic in character, but as soon as a door or window was opened he would be relieved of his dyspnœa. At the end of the eight days his temperature again rose to 103°, and he had attacks of trembling and singing. The fever disappeared under antipyretics, and for three days and three nights the patient perspired continually. Since that time he has felt quite well, but has continued the use of bromide of potassium and bromide of sodium, in medium doses, thrice daily. He returned to his home, from which he has written me that he is feeling pretty well, with the exception of an occasional headache and a frequent inclination to yawn.

Considering all the symptoms of this case, it seems to me that it was one of slight inflammation in the frontal region of the cerebrum, because, although it must be admitted that the patient was somewhat nervous in consequence of his masturbation, the complex symptoms which were presented followed directly after the hypnotic experiment.

This case should serve as a warning against such experiments by the laity, and I hope that a law forbidding them will soon be enacted.

75 Rivington Street.

A CASE OF MYOMECTOMY.*

By H. C. CROWELL, M. D.,

KANSAS CITY, MO.

On November 22, 1890, I was asked to see Mrs. T., aged forty-four, married, mother of three children. The patient was in good condition save for having a growth of some kind in the left iliac region.

Upon examination, a tumor, apparently of about the size of a medium-sized cocoanut, could be felt projecting a little above the brim of the pelvis, filling to a considerable extent the left iliac cavity. To the touch it had a soft, semi-solid feel, not unlike that of a cystoma when well distended with fluid and not large. No well-marked fluctuation could be detected. The uterus was retroverted and crowded well down by the tumor. Patient had had no hæmorrhages; she had passed over her last menstrual period without its appearance, some six or seven weeks before. Only lately had she noticed the growth sufficiently to cause her to consult a physician, though she is said to have remarked about a year ago that "she believed she had something growing in her." No attention was paid to it, however, until a few days before I saw her. At this time Dr. Miller, of Liberty, and Dr. Sloan and Dr. Griffith, of Kansas City, saw her. From the physical evidences, while they lacked in some essentials, we were agreed that we probably had an ovarian cystoma, reserving in our minds the possibilities of its being something else, as one must in all cases of abdominal or pelvic tumors, unless the history and physical signs are unequivocal.

In palpating this tumor through the vagina I noted a very strong pulsation, which raised the question of extra-uterine pregnancy, yet we lacked other more reliable signs, such as the discharge of decidual membrane, hæmorrhages, pain, etc. All we had to encourage the suspicion might be said to be the fact that she had missed her last menstrual period, and, even so, we had a tumor much too large for extra-uterine pregnancy of no longer duration than possibly eight weeks. Her only complaint had been of some little trouble with the bladder, probably due to pressure upon that viscus. In view of the fact that we were all agreed that we had in all probability an ovarian cystoma to deal with, we deemed it advisable to operate for its removal.

Accordingly, on December 8, 1890, assisted by Dr. Griffith, Dr. Gaines administering the anæsthetic, and Dr. Miller and Dr. Sloan being present, I operated.

Upon opening the abdominal cavity, a tumor presented which lacked the characteristics of an ovarian cystoma. To the touch it was not hard. It was not adherent to the surrounding viscera; its attachment was low and very broad. At first it was thought to be an intraligamentary tumor, but we soon found it to be anterior to the right broad ligament, running down to the neck of the uterus and involving in its attachments the whole right side of the uterine body. Upon the top of the tumor was a boss which had a feel as though possibly it might contain fluid; consequently it was deemed advisable to introduce a trocar, which, being done, gave a negative result. Again it was thought that the tumor must contain fluid, from its very soft feel, and again the trocar was plunged, this time into the body of the tumor, with results the same as before.

It now became an anxious question what was to be done. For a moment the advice seemed to be in favor of closing the holes made by the trocar, and then the abdomen, leaving the tumor unmolested save in so far as the puncture holes were concerned, and I therefore began very reluctantly to close the holes with catgut. During this period the results to follow leaving the tumor were discussed until I ventured the opinion that it could be enucleated. While all were agreed that possibly it might be accomplished, yet there was lacking that positive support which one desires under these circumstances. However, I incised the capsule and enucleated the tumor as low as possible, taking care to preserve the capsule free from rent or injury. The bladder, attached to the outer surface of the capsule, was carefully dissected away down to the cervical and corporeal junction of the uterus. The adhesions or attachments to the body of the uterus were very intimate, and left a large bleeding surface. The stump where it was ligated was some three inches in diameter; the ligatures employed were of Chinese silk. In order to effectually control the hæmorrhage, one ligature was applied; then that part of the stump included in the ligature was cut, thus allowing of greater compression and security from the ligations.

Considerable hæmorrhage took place from the capsule, requiring a few catgut ligatures. The ovaries and tubes being removed, the peritoneal cavity, which had been maintained comparatively clear of blood by sponges held between the tumor and the wall of the cavity, was dried with sponges. The capsule was grasped with clamp forceps and held while I closed the abdominal wound to within an inch of the lower angle of the incision, where I included the walls of the capsule, sewing the edges over and over with floss silk, including about half an inch of sac wall in each welt. Only one stitch was inserted below the sac. and that simply as a re-enforcement stitch.

---

* Read before the Kansas City Academy of Medicine, January 24, 1891.

After thoroughly washing out the capsule I packed it well with bichloride gauze. The depth of the cavity from the surface of the abdominal wall, which was very thick and fat, was some six inches. The usual dressing was applied to the abdominal wound, which, with the gauze in the capsule, was left fifty-two hours before removal.

Considerable blood-stained serum drained away during this time. The dressings came out sweet and clean, save from blood discoloration. I now substituted iodoform gauze for the bichloride in packing the capsule. Boric acid was poured over and around the gauze as it emerged from the neck of the capsule. This sort of dressing was continued throughout the history of the case, being changed every other day.

The abdominal incision above the capsule opening healed by first intention without the appearance of a drop of pus. The stitches were removed from the abdominal wound on about the tenth or eleventh day, and those from the neck of the capsule on the sixteenth day, when the capsule was found perfectly united to the surrounding tissues. I had feared possible suppuration about the neck of the sac, leaving an opening into the peritoneal cavity, but, fortunately, I had no trouble from first to last. The patient never vomited from the anæsthetic, never complained of pain, nor moved a sixteenth of an inch either way from the flat of her back for three weeks, save what she was moved in dressing the wound.

At each dressing I washed the cavity out with peroxide of hydrogen, which served to keep it free from pus and any infectious ptomaines. I also dusted iodoform into the cavity previous to packing with gauze. At the end of four weeks the cavity was almost obliterated by filling up from the bottom, leaving only a sunken wound in the abdominal wall to be filled up by granulations.

The temperature reached its highest point (100·8° F.) on the third day, and after that ranged from 99° to 100° for three weeks, when it dropped to normal and there remained.

There are some points of interest to be considered in connection with this and like cases. First, the tumor was shown to be a simple myoma by microscopical examination, kindly made by Dr. Binnie. It was subserous in location and may be said to have been truly sessile in attachment, as you may judge by examining the point of ligation or separation on the specimen as it passes around.

Since we have found that we had a simple myoma to deal with, the question arises as to the advisability of operative interference, unless symptoms such as hæmorrhages, pressure, etc., suggest such interference for safety to the patient. In this particular case there were no bad symptoms, though the effects of pressure were beginning to appear.

Many advise leaving these tumors, unless for symptoms such as I have mentioned; but when we take into consideration the possible terminations, I think we shall find ample reason for removing every myoma when it can be done with reasonable hopes of success.

Fortunately I am able, through the courtesy of Dr. Griffith, to show you a myoma with beginning degeneration and pus formation. Such a condition is among the possibilities and a not very uncommon termination of this class of tumors. This degeneration is said to be due to a small embolus obstructing some of the capillaries which are to be found in myomas.

This condition of degeneration in Dr. Griffith's case I do not think could be diagnosticated before operation, hence the possibility of fatal results when left unmolested or subjected to the ergot treatment. And even may we not seriously ask the question whether ergot may not increase the danger of necrosis and decay? Malignant degeneration is another form of termination of these cases. Martin says it occurs in 20 per cent., and that a large percentage of the remaining 80 per cent. show symptoms and conditions unfavorable to the patient; hence it appears to me to be a rational conclusion to operate, and I am not quite sure but we may say that an operation is not only justifiable, but a duty we owe to the patient in the present light in which it presents.

Another feature which to me has possessed some interest in this case is the manner in which I treated the stump and capsule. Usually, I think, with a lesser stump or pedicle, the manner of treating it would be to ligate and stitch the peritonæum over the stump, draining through the abdominal wound by glass drainage-tubes, or through the vagina by similar means. The danger to be expected, it seems to me, lies in the infection of the peritoneal cavity from the large stump left, in case any suppuration should occur, as is frequently the case. By utilizing the capsule intact, I was able, in the first place, to control an extensive oozing from the uterine surface laid bare by the enucleation, and also drain away the serum, which was very profuse for the first twenty-four to thirty-six hours. I was also able to keep any infectious source occurring about the pedicle absolutely within my control. In short, I possessed in this method the advantages of both the extra-abdominal and intra-abdominal treatment of the pedicle.

This plan of utilizing the capsule when possible does away with the extra-abdominal method sometimes employed where the pedicle is held by pins until healing has been effected. There is less tension and no trouble from suppurating abdominal walls from the pressure of the pins.

I am unable to find that any one has treated like cases in just the manner pursued in my case, utilizing to the same extent the capsule of the tumor.

While I think this may be a slower method of treating such cases, it offers much in favor of safety to the patient, and is destined to leave the uterus in a perfectly natural position.

It does not in any way weaken the abdominal wall, as the final closing of the sac and wound is by granulation, which makes the strongest kind of cicatrix.

CORNER OF NINTH AND LOCUST STREETS.

The National Association of Railway Surgeons.—At the Kansas City meeting, last year, it was voted to hold the next meeting at Buffalo on May 7th, 8th, and 9th of this year. But, on account of the meeting of the American Medical Association being set for the same time, it has been decided to change those dates, and to hold the next meeting at Buffalo on April 30th and May 1st and 2d. All railway surgeons are cordially invited, and to all of them who send their names and addresses to the corresponding secretary, Dr. A. G. Gumaer, Buffalo, N. Y., a copy of the Constitution and programme will be sent. All who wish to read papers, or desire further information, should communicate with Dr. Gumaer without delay.

EXPERIMENTAL RESEARCH
ON PROFESSOR R. KOCH'S FLUID,
WITH EXHIBITION OF CULTURES AND EFFECTS UPON ANIMALS.*

By PAUL GIBIER, M.D.,
DIRECTOR OF THE NEW YORK BACTERIOLOGICAL INSTITUTE.

Having received a certain quantity of Dr. Koch's "lymph" in the beginning of January, I made several experiments with it, with the results of which I should like briefly to acquaint you.

These experiments were made:

A. Upon the cultures of tuberculosis.
B. Upon animals.
C. Upon patients.

A. *Experiments upon Cultures.*—1. A milligramme of "lymph" is added to five cubic centimetres of glycerin-agar, which is then inoculated with a liquid culture of human tuberculosis.

Result.—After fifteen days' sojourn in the incubator the whole surface of the agar was covered by a culture of tubercle bacilli.

2. Five milligrammes of "lymph" were added to five cubic centimetres of glycerin-agar and inoculated as in the preceding experiment.

Result.—Fifteen days later the growth, although less abundant than in the first case, covered all the surface of the culture.

3. Fifteen cubic millimetres of the culture of the tubercle bacilli were mixed with an equal quantity of pure "lymph," and glycerin-agar was inoculated with it at the varying intervals of a quarter of an hour, and of one, two, nine, twelve, and twenty-six hours. After a contact of twenty-six hours the cultures developed normally, as you can see by the tubes which I have the honor of presenting for your inspection. The bacilli themselves having sojourned for this length of time in contact with the "lymph" do not seem, on microscopic examination, to have been perceptibly modified.

B. *Experiments upon Animals.*—I will only, among several, quote the following: 1. A guinea-pig weighing 774 grammes inoculated with a cubic centimetre of culture of human tuberculosis, sterilized by gold cyanide, forms a large abscess after a few days, which extends over the greater part of the right thoracic and abdominal surfaces. This is found to contain an abundant quantity of caseous pus, and, while pure, numerous dead bacilli. The abscess healed without entailing skin sphacelus, and the animal increased in weight. His actual weight is 811 grammes, giving an increase of 37 grammes.

Several milligrammes of "lymph" injected into this guinea-pig at different epochs produced no reaction, even in the dose of 80 milligrammes.

2. A guinea-pig inoculated November 22, 1890, with human tuberculosis by means of two cutaneous incisions in the groins, presented a slowly evolving tuberculosis. The inguinal nodes, at the end of three weeks, were as large as small nuts; the animal, while apparently well, had lost 40 grammes, weighing 763 grammes January 3d. He was then given half a milligramme of "lymph," and the successive days the following quantities:

January 3d,	½ milligramme.
" 4th,	1 "
" 5th,	1 "
" 6th,	1½ "
" 8th,	3 milligrammes.
" 10th,	3 "
" 11th,	3 "
January 12th,	3 milligrammes.
" 13th,	3 "
" 14th,	5 "
" 16th,	10 "
" 18th,	10 "
" 20th,	15 "
" 22d,	15 "
January 25th,	15 milligrammes.
" 27th,	15 "
" 30th,	15 "
February 2d,	30 "
" 7th,	20 "
" 9th,	25 "
" 10th,	25 "
February 12th,	30 milligrammes.
" 14th,	35 "
" 16th,	75 "
" 18th,	80 "
" 20th,	100 "
" 22d,	100 "
Total......	640 milligrammes.

Making a total of 640 milligrammes in a little less than two months' time.

A reaction was only obtained after the injection of 30 milligrammes. I should like here to remark that, given the weight of the animal, 100 milligrammes of lymph would be equivalent to about 10 grammes, or 10,000 milligrammes, for a man of ordinary weight, and the total quantity of 640 milligrammes, equivalent to more than 64 grammes or cubic centimetres, for the same man. The reaction, obtained after the injection of 30 milligrammes and larger doses, manifested itself by an elevation of one or two degrees centigrade of temperature. Neither the tubercular ulcerations nor the nodes were in any way affected.

Results.—They are absolutely unfavorable; the animal has lost weight constantly, weighing at the beginning of the experimentation 763 grammes, and to-day 645 grammes, giving a loss of 118 grammes, or one seventh of its entire weight, since the beginning of the injections. Moreover, as you can see, the cutaneous lesions of the animal, which I present to you, have acquired an unusual intensity. The points of inoculation, which had cicatrized, reopened during the period of injections and became ulcerated, forming on the right side a raw surface of the size of a twenty-five-cent piece. The ulceration of the left side is much larger and extends from the flank toward the back and around the thigh, and invades the abdominal surface. Other smaller ulcerations and tubercular nodules can be seen at a distance of a centimetre and a half from the main wound. Rare bacilli have been found in the tissue excised from the edges of this ulceration. Localized induration of the skin is found at about two centimetres and a half from the ulceration, and it is positive that a bacillar infiltration has taken place. The abdominal wall is infiltrated. The internal organs are apparently compromised, for respiration is notably accelerated, there being about ninety-six inspirations to the minute, and the animal having apparently but a short time to live. I intend to exhibit its viscera to the society whenever it dies.

I do not believe that this case can be considered exceptional, for similar results have been obtained and communicated to the Academy of Medicine of Paris by Professor Jaccoud, Professor Dujardin Beaumetz, and Professor Dubief.

C. *Experiments upon Patients.*—In consequence of the scarcely favorable results which have been published so far, I have not felt myself at liberty to accept more than three patients for the inoculations. Two of these patients have pulmonary tuberculosis capable of amelioration by the ordinary methods of treatment; the third patient, who has been operated upon several times in the past two years for tubercular genital lesions, had at the moment he presented himself for inoculations a tubercular lesion of the condyles and lower third of the left femur. Although the articulation is comparatively mobile, the leg is several centimetres shorter than it should be, and complete extension can not be obtained; walking is only possible by means of crutches, and the slightest contact is painful.

The condition of the two patients with pulmonary tuberculosis has not been visibly ameliorated by the injections. The third patient, with tubercular bone affection, has seen his pain disappear so that neither pressure nor blows upon the diseased parts is any longer painful.

---

* Read before the Medical Society of the County of New York, February 23, 1891.

He has increased over four kilogrammes (nearly ten pounds) in weight in five weeks, his weight at the beginning of the treatment being 63·6 kilogrammes. He is always forced to use crutches, although able to lean upon the foot of the affected side, a thing he could not do less than a month and a half ago. I have believed myself warranted, in view of this condition of affairs, in continuing the treatment by injections, although I have deemed it advisable to add to it an iodine medication and a special diet.

Conclusion A. The addition of a milligramme of "lymph" to a cubic centimetre of culture does not prevent the development of the tubercle bacilli.

Tubercle bacilli can develop after an interval of several hours (twenty-six hours at least) of contact with pure "lymph."

Contrary to what would appear from certain recorded cases, even the direct action of the lymph upon the tubercle bacilli does not produce any appreciable morphological or biological modification.

B. The injection of the "lymph" of Professor Koch, contrary to his assertions at the Berlin Congress and in his subsequent communications, exercised no inhibitory action, even in considerable doses, upon the development of the but slightly advanced tuberculosis of the guinea-pig in the above-mentioned experiment.

C. The history of the patients of whom I have spoken, as well as the careful study of the observations published, warrants my opinion that in other than cases of tubercular lupus or of specific bone lesion the "tuberculine" of Koch is inefficacious.

Taking into consideration results similar to those I have described, we could conclude that we are, for the moment, assisting at the spectacle of one of the greatest medical and scientific delusions that have ever existed, and that the remedy in question should be completely rejected from therapeutics. Still, the reaction which takes place, according to many case records, at the diseased foci, the favorable results obtained in certain special cases (lupus, tuberculosis of the larynx, of the bones, etc.), permit us to believe that the new remedy could be of use not only as a method of diagnostic but also as a precious adjuvant to other methods of treatment of tuberculosis. This is a view of the case which, in so far as I know, has been as yet but little studied, and which, it seems to me, merits consideration.

Influenza in Dogs.—"In a late discussion on influenza, at the Académie de médecine, Paris, Professor Olivier instanced several cases of this disease in dogs and horses. As the term 'influenza' has long been used abroad to indicate a disease common to the horse which is certainly not influenza, it is impossible to say if human influenza can be communicated to that animal. With regard to the dog, MM. Megnin and Veillon recently presented a note to the Société de biologie stating that of late a disease similar to influenza has raged in certain kennels. In a pack of one hundred and twenty, at Chantilly, the majority were attacked, and among coursing dogs, at Aveyron, and a fine pack of beagles, the disease was also prevalent. All the characteristics of human influenza were found in these dogs, as swollen and watery eyes, painful cough, and general depression. The animals attacked were rarely long ill, and only from one to two per cent. succumbed."—*British Medical Journal.*

THE
NEW YORK MEDICAL JOURNAL,
A Weekly Review of Medicine.

Published by D. Appleton & Co.
Edited by Frank P. Foster, M. D.

NEW YORK, SATURDAY, MARCH 14, 1891.

ESSENTIAL PAROXYSMAL TACHYCARDIA.

Dr. H. C. Wood, in the *University Medical Magazine* for March, presents the history of a case, in a physician, of a perplexing cardiac disturbance to which he has attached this name, quoted in the caption above written. The affection is one of several forms of "cardiac nerve storms" which may or may not be associated with organic lesion of the heart; and this lesion, in turn, may or may not be essential—it may, for example, be trophic or secondary to a nerve lesion, as in the cases reported by Teissier, in which the aortic valves were found to be punched as with a perforating ulcer; but, whether this trophic explanation is accepted or not, Dr. Wood has no remaining doubts that there are cases of violent nerve storm, accompanied with excessive pain—nerve storms similar in character to those that constitute the "gastric crises" of posterior sclerosis—in which no lesion of the valves can be discovered; and these cases differ also from the paroxysms of true angina. Dr. Wood is inclined to restrict the use of the term tachycardia. In accordance with its etymology, it could be made to apply to any case of rapid action of the heart. But he regards it as fortunate that there has not yet been any very frequent use of the word sufficient to affix to it any settled meaning, and he suggests its limitation to those diseased conditions, marked by violent action of the heart, that are not dependent on organic cardiac disease, or on febrile excitation, or on a general constitutional affection, such as exophthalmic goître; and he proposes the restriction of the name tachycardia to cases in which very violent action of the heart occurs without obvious reason. The greater number of these cases resolve themselves into the following three classes: (1) paralysis, centric or peripheral, of the pneumogastric or inhibitory nerve; (2) cases of reflex disturbance, as from the irritation of a biliary calculus or of the sexual organs in the female; and (3) those in which the affection is a neurosis, as when it is due to hysteria or allied conditions, or to exhaustion from privation, or to fright, or to the too rapid ascent of flights of stairs.

Carrying the distinction still further, Dr. Wood places in a class by themselves certain rare cases of cardiac motor-nerve storms to which he applies the title of *essential paroxysmal tachycardia*, several of which cases have been found by him in the contributions of Nothnagel. In the most striking of these cases, the patient was subject to violent action of the heart that came on abruptly, even during absolute quiet, without marked pain, but with some sense of anxiety. In a moment the pulse would go up to 180, the heart sounds meanwhile remaining normal. The duration of the tachycardial paroxysm varied from a few minutes to several hours. In the instance of the physician, already referred to as Dr. Wood's typical patient, the pulse-rate rises as high as 160 if the patient remains at rest, and as high as 200 if he exerts himself, as in walking. The access of the paroxysm is abrupt, and so is its cessation. During rest the disagreeable sensations belonging to the attack are hardly more than slight pain and a sense of thoracic fullness. The patient, Dr. H. C., is now over eighty-five years of age, and since about his sixtieth year has had these paroxysms, on an average, once in every three weeks, although he has had as many as four in a month. This was his experience prior to 1888; latterly the attacks have been more frequent. The paroxysms may be brief and they may be broken up by some medicament after a few minutes—but various forms of treatment tend to lose their efficacy after a certain number of trials—or may be protracted to ten or even twenty-six hours. The patient has been examined frequently for cardiac lesion by various physicians of high rank, both during the attacks and during the intervals, but at no time has any murmur been found. His health has continued good, and now, in his eighty-seventh year, he continues to be sufficiently vigorous to be able to ride about in his carriage for hours at a time, and even to walk considerable distances. The attacks have become very frequent, occurring during the last year almost every day, but they are often terminated promptly by the drinking of a glass of cold water. The pulse now rarely rises above 135, there is little distress, and he can even write a letter in the height of a severe paroxysm without the handwriting showing any tremulousness or otherwise giving evidence that it is the work of a tachycardiac old man.

In conclusion, the following is Dr. Wood's definition, given in his own words, of essential paroxysmal tachycardia: "The definition of the disease would be that of a recurrent paroxysmal neurosis in which attacks of excessively rapid heart action occur without obvious immediate or disposing cause, and without pronounced pain or excessive cardiac distress, the pulse rising to 160 and upward, the sounds of the heart remaining normal, and it being frequently possible to arrest the attacks by drinking a glass of cold water and certain other procedures of apparently trifling import, the disease having apparently no tendency to shorten life or to develop organic disease, and being entirely compatible with great mental and physical activity." In regard to the influence over this affection of so simple an act as the swallowing of a small amount of cold water—which is probably a characteristic phenomenon of the trouble, since it has been noted in nearly all the fully reported cases—Dr. Wood refers to observations by Dr. S. Meltzer, which show that swallowing is attended with a loss of tone in the vagus center, and with a consequent cardiac inhibition, but it is also possible that the swallowing of cold or hot liquid begets a stimulus to the cardiac center by an irritation of the peripheral gastric filaments, since it is well known that an irritation of the abdominal nerves is competent to inhibit the heart in a reflex way; and the temperature at which the liquids are swallowed is important, since, if the water, when taken by the patient, is only moderately cold, much larger quantities of it are required.

THE AFTER-TREATMENT IN LAPAROTOMY CASES.

Dr. A. J. C. Skene, in the *Brooklyn Medical Journal* for February, reviews the new and old ways of the after-management of laparotomy cases. He finds a tendency in some recent reports toward a new departure in ovariotomies and similar operations. Instead of administering opiates and securing rest for several days, the bowels are moved early and opium and its derivatives are withheld. Patients who show signs of septicæmia or peritonitis are given saline cathartics. It is argued that a free activity in the intestinal mucous membrane is better than a quiet and torpid state, because it favors a kind of drainage which arrests the tendency to inflammation of the peritonæum and helps in the elimination of septic material. While this may be regarded as rational from a theoretical standpoint, especially in view of the fact that in some cases of well-marked septicæmia there is a spontaneous diarrhœa that is followed by a lowering of the temperature for a time, yet the clinical fact is that this kind of elimination by diarrhœa or by purgation is seldom productive of any permanent improvement. The new treatment appears to Dr. Skene to suffer in comparison with the old one in the hands of surgeons who aim to procure rest for the bowels and the stomach also until the first dangers are past. He has found in his own practice that, so soon as there are evidences of sepsis or inflammation after an operation, the stomach is disturbed and will not retain saline cathartics or, in fact, any other medicinal agent; in other words, those practitioners who might wish to adopt the new plan of treatment seem to meet with an almost insuperable obstacle to the administration of cathartics at the very moment that the indications for their use have arisen. Perhaps the advocates of this treatment may be able to anticipate the onset of the coming storm by giving salines to ward it off, but Dr. Skene has not been able to do so.

Regarding the use of opium after ovariotomy and other like operations, the writer adheres to the conservative ground that, while there is a considerable number of good reasons in favor of that drug, he has not yet heard of one tenable argument against it. There may be a few patients who can get along without it, but the vast majority do better under it, and therefore may be said to require it to enable them to resist pain and sleeplessness and shock, and, above all, to secure that rest and quiet that are so important to recovery after major operations. The bearing that opium has on the control or prevention of septic sequences in surgery is seen in the necessity that exists for prompt repair in and about the wounds made by the surgeon, and in the fact that the reparative processes go on most favorably when the nervous apparatus is in a quiescent and pliant condition. The process of reparative nutrition is, as a rule, brought to a stand-still when the nervous system is in a state of turmoil and the circulation is running wild. The patient needs at such times the protective factor that will allow repair to be re-established in quietude and repose of the nervous system, and opium is the most potential agent yet made known to us for effecting this protection. It is not even necessary to wait for evidences of septic and other complications, but the drug should be given to control that nervous erethism that commonly precedes all those troubles. Opium fails to do all that it is capable of accomplishing if it is not given in time, and it may often be condemned as useless when the real fault lies in the mode of administering it. Some of the most successful of our laparotomists give it immediately after the operation, and in all cases where the wound has been large or where shock is present this rule is the best, but in cases of lesser gravity Dr. Skene prefers to wait until the effects of the anæsthetic have passed off and some distress or pain is complained of; then is the time to begin with the opium, and the narcotic effect should be kept up so long as there is danger of these dreaded complications, as judged of by the condition of the patient. His manner of giving the drug is by hypodermic injection at first, keeping up the effect in that way or by rectal instillations of opium in warm water. Finally, Dr. Skene would present, as a strong point against catharsis and in favor of narcosis, the argument by analogy that can be drawn from the success that has followed the use of opium in puerperal peritonitis and metritis, in which class of cases the opium treatment was first employed and is still practiced by obstetricians to a large extent. Now, as there is a marked similarity between the inflammatory and septic diseases that occur in the puerperal state, and those that follow upon ovariotomy, hysterectomy, and other like operations, the experience of obstetricians with both new and old ways of treatment must be of great weight in guiding ovariotomists. And, for the present at least, the weight of experience appears to support the non-perturbating and restful plan that relies chiefly on the early and continuous use of opium.

MINOR PARAGRAPHS.

NEW FORMS OF THE MICROBE OF PNEUMONIA.

The *Lancet* for February 28th states that Dr. Guido Banti has reached some rather complicating conclusions regarding the diplococcus of acute pneumonia. He professes not only to have found this microbe in every one of the forty-seven cases of fibrinous pneumonia examined, but to have discovered that the diplococcus occurs in four varieties—one of which is doubtless identical with the much-debated Fraenkel-Weichselbaum coccus—differing in their pathogenic virulence when inoculated in animals. Banti believes that he has demonstrated that the diplococcus of Fraenkel and Weichselbaum is one of the less virulent of the four forms; and he points out that in the years 1886 and 1887, as well as last year, the type of pneumonia was a relatively mild one, and then it was that only that diplococcus could be found. But in 1888 and 1889, when the cases were much more severe, the three other forms of this micro-organism were the ones most constantly met with. The bacillus of Friedländer was not found in this series of cases; the same is true of the *Streptococcus pyogenes.* The investigations were extended to eight cases of secondary broncho-pneumonia which yielded the diplococcus, either alone or associated with the *Staphylococcus pyogenes aureus*, or the latter alone, or in association with the *Streptococcus pyogenes.* In exceptional cases other microbes, such as the bacillus of Friedländer, were found. The chief points of interest in this investigation were the well-nigh invariable presence of the *Diplococcus pneumoniæ* in lobar pneumonia, not only in the exudation in the lung and pleura, but often, probably always, in the blood; the variation in the intensity of the disease dependent on the differences in virulence of the micro-organism; and, lastly, the fact that complications are, as a rule, excited by the same agency.

STUDIES IN ONTOLOGY.

In a recent issue of the *Proceedings of the Royal Dublin Society* there is an essay under this head by G. Johnstone Stoney, M. A. The subject is dealt with from the standpoint of the scientific student of nature. He begins the study by reasoning from the beliefs existing in the mind of the inquirer, meaning his own or any other mind. The steps of the argument are presented in diagrammatic form, making the sequence of certain objects, relations, and events clear, so that one can follow out the author's method. He considers that a great step will be gained if it ever becomes possible to ascertain the protheta of human memory, the changes of the brain which accompany the revival of thoughts recollected, and how these differ from the protheton of the original thought, as also the condition of the brain during the interval between the original thought and its revival. The author says that probably this can not be arrived at directly, but that there may be instances in which it would not be impossible to detect that which in external nature—*i. e.*, exclusive of the brain and similar structures—is the protheton of what may be called cosmic memory. If this clew can be obtained, it may probably be followed by further discoveries.

CONCERNING THE PRESCRIPTION OF PROPRIETARY DRUGS.

The *Druggists' Circular* for February contains a letter of inquiry from an apothecary regarding the probable cause of effervescence when attempting to dispense antikamnia with elixir of pepsin. The reply of the editor of that journal is to the effect that the reaction in the case cited can not be explained, since the composition of antikamnia has not been made public. The proprietors of that article have issued only the vague statement that it is "a new combination of coal-tar derivatives of the series C_nH_{2n-6}," and that its therapeutic action is analgesic, antipyretic, and anodyne, and that it will relieve pain in neuroses with great certainty and without evil after-effects. The editor further remarks that the apothecary would do well to suggest to the prescriber of any drug of unknown composition that he should order it to be dispensed "pure and simple, as no one can predict what will happen to it on its admixture with something else."

PARAPLEGIC RIGIDITY IN A PEDESTRIAN.

In the *Centralblatt für klinische Medicin*, Dr. Tuczek reviews a case that was reported by Dr. Hadden in a recent number of *Brain.* The patient was a young man of fine physique, an athlete and pedestrian. The first symptoms noticed were pain and spasm in the legs, followed by atrophy, weakness, and rigidity. Any voluntary movement of the legs brought on the spasm, beginning in one group of muscles and extending over the entire limb. The limbs at a later stage became so sensitive that any irritation, direct or indirect, brought on the spasmodic attack and the contractions rapidly became tetanic. The electrical reaction was normal, and so were the reflexes. The muscles of the upper extremities remained perfectly developed, but their action was weak. Marked improvement followed the use of hot and cold douches and bromide of potassium.

THE SPEECH CENTER.

In a review of the second edition of Dr. Frederick Bateman's book on *Aphasia and the Localization of the Faculty of Articulate Language*, published in the *American Journal of Insanity*, Dr. Bateman is quoted as practically discarding all the theories, including Broca's, of localization of the speech center. Although he admits that in a great number of cases aphasia has been found associated with disease in the left anterior lobe, and more especially in the third frontal convolution or its immediate neighborhood, and that the occurrence of derangements of speech with lesions of this limited area is so strikingly frequent as to take it altogether out of the region of mere chance, he explicitly states that he thinks the matter not proved so far as any arbitrary and definite localization of the faculty of speech is concerned.

A TREATMENT OF EPISTAXIS.

Mr. Jonathan Hutchinson has made a note in his *Archives of Surgery* of a treatment of epistaxis which he avers has never failed of success in his hands, and he has had many very rebellious cases. It consists in plunging the patient's feet and hands into water as hot as can be borne.

ITEMS, ETC.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported during the two weeks ending March 10, 1891:

DISEASES.	Week ending Mar. 3.		Week ending Mar. 10.	
	Cases.	Deaths.	Cases.	Deaths.
Typhoid fever	5	2	14	1
Scarlet fever	138	40	130	17
Cerebro-spinal meningitis	3	3	2	3
Measles	328	15	426	13
Diphtheria	100	51	105	37
Small-pox	0	0	1	0
Varicella	10	0	7	0

The Tenth German Congress of Physicians (*Congress für innere Medicin*) will be held at Wiesbaden on the 6th, 7th, 8th, and 9th of April, under the presidency of Dr. Leyden, of Berlin. The chief themes announced are as follows: April 6th.—Gall-stone Diseases (reporters, Dr. Naunyn, of Strassburg, and Dr. Fürbringer, of Berlin). April 7th.—Koch's Method of Treatment in Pulmonary Tuberculosis and other Internal Tuberculous Diseases. April 8th.—Angina Pectoris (reporters, Dr. A. Fränkel, of Berlin, and Dr. O. Vierordt, of Heidelberg). In addition, the following papers are announced: On Intermittent Albuminuria, by Dr. Kahler, of Vienna; On the Treatment of Leucæmia, by Dr. Mosler, of Greifswald; On the Differential Diagnosis of Pericardial Exudates and Cardiac Dilatation, by Dr. Schott, of Nauheim; On Circulatory Disturbances, and On Morbid Changes of the Striated Muscles, by Dr. Knoll, of Prague; On Chemical Processes in Infectious Diseases, by Dr. Brieger, of Berlin; On the Diagnosis of Hypertrophic Cirrhosis of the Liver, by Dr. Rosenstein, of Leiden; On Hydrocephalus, by Dr. Quincke, of Kiel; Observations on the Patellar, Tendon Reflex in Tabes Dorsalis, by Dr. Eichhorst of Zürich; On the Question of the Genesis of the Vesicular Respiratory Murmur, and On the Statistics of Varicella, by Dr. Edlefsen, of Kiel; On the Diuretic Action of Phenylmethylpyrazolcarbonic Acid, by Dr. Tappeiner, of Munich; On the Method of "Mathematical Diagnosis" of Acute Articular Rheumatism and all Other Forms of Central Rheumatism, and On the Ætiology of Bright's Disease, by Dr. Friedländer, of Leipsic; Clinical Observations on the Exeretion of Acids in Psychical and Nervous Affections, by Dr. Leubuscher, of Jena; The Examination of the Specific Gravity of the Blood, and its Significance in Anæmic States, by Dr. Schmaltz, of Dresden; and The Diagnosis and Treatment of Gout, by Dr. Mordhorst, of Wiesbaden; also papers on subjects not yet announced by Dr. Külz, of Marburg, Dr. Klemperer, of Berlin, Dr. Leo of Bonn, and Dr. Lenhartz, of Leipsic.

The late Dr. George R. Cutter.—The following resolution was passed by the board of surgeons, and afterward by the board of directors, of the New York Eye and Ear Infirmary, at their last regular meeting:

"In view of the death of Dr. George Rogers Cutter, which occurred on February 12, 1891, after a brief illness, the board of surgeons of the New York Eye and Ear Infirmary hereby place on record their warm sense of his estimable qualities as a man and as a physician. Beginning his connection with the institution as resident surgeon, he was afterward placed upon the staff, and acquired the position of surgeon in 1877. His career in the service of the infirmary covers a period of twenty-one years. He was noteworthy for fidelity, promptness, and zeal in his work. His industry was unflagging. Quick in thought and action, he was prompt to recognize the value of new methods and to profit by his own observation and experience. He was a scholarly man and never tired of acquainting himself with the most recent literature of his profession. Gifted in the art of acquiring languages, his reading was wide and his discernment good. The surgeons feel that they have lost a most gifted and true man, an esteemed colleague, and an able surgeon. While they express their own regrets, they beg to tender their sincere condolence and sympathy to his wife and family."

The Section in Public Health and Hygiene of the New York Academy of Medicine.—At the meeting to be held on Wednesday, the 18th inst., Dr. Andrew F. Currier will read a paper on The Unrestricted Evil of Prostitution. Dr. R. W. Taylor, Dr. F. R. Sturgis, Dr. W. M. McLaury, Mr. Aaron Powell, and Mr. Anthony Comstock will take part in the discussion.

The Medical Corps of the Army.—We lately gave notice that an army examining board would meet in New York in April. At that time the number of vacancies was five; now it is fourteen.

The Death of Dr. Hosmer Allen Johnson, of Chicago, occurred on February 26th. He was a native of Wales, Erie County, N. Y., but while yet in his boyhood moved to Michigan. He was graduated in arts at the University of that State in 1849, and in medicine at the Rush Medical College in 1852. He settled in Chicago and was soon identified with medical teaching, remaining in the Rush College from 1855 to 1859. In the same year he assisted in the formation of the Chicago Medical College, being the first president of its faculty. His connection with that institution as professor or trustee continued until the time of his death. He also assisted at the founding of the Chicago Academy of Sciences and other local societies. He was at one time a member of the National Board of Health and also of his State board. He was president of the American Public Health Association at the time of its annual convention in Brooklyn in 1889. He was a frequent contributor to medical periodical literature, and edited the *Northwestern Medical Journal* for some years. He was a prominent member of the Relief and Aid Board after the great fire, and was the author of the medical report. His fatal illness was pneumonia. He was in his sixty-ninth year.

Army Intelligence.—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from March 1 to March 7, 1891:*

Horton, Samuel, Major and Surgeon. By direction of the Secretary of War, leave of absence for two months, on surgeon's certificate of disability, is granted. Par. 7, S. O. 49, A. G. O., Washington, D. C., February 4, 1891.

Lippincott, Henry, Major and Surgeon, is, by direction of the Secretary of War, relieved from duty at Fort Union, New Mexico, to take effect upon the final abandonment of that post, and will then proceed to Fort Adams, Rhode Island, and report in person to the commanding officer of that post for duty as Post Surgeon, reporting by letter to the commanding general, Division of the Atlantic. Par. 9, S. O. 46, A. G. O., Washington, D. C., February 28, 1891.

Davis, William B., Captain and Assistant Surgeon. By direction of the Secretary of War, the extension of leave of absence granted in S. O. 22, February 5, 1891, Division of the Atlantic, is further extended one month. Par. 7, S. O. 46, A. G. O., Washington, D. C., February 28, 1891.

The following-named officers, having been found by Army Retiring Boards incapacitated for active service on account of disability incident to the service, are, by direction of the President, retired from active service this date under the provisions of Section 1,251, Revised Statutes:

Tremaine, William S., Major and Surgeon.

Loring, Leonard Y., Major and Surgeon.

Par. 19, S. O. 45, A. G. O., Washington, D. C., February 27, 1891.

Elbrey, Frederick W., Captain and Assistant Surgeon, having been examined by a board of officers and found physically disqualified for the duties of a surgeon with the rank of major, by reason of disability incident to the service, is, by direction of the President, retired from active service with the rank of major under the provisions of the act of Congress approved October 1, 1890, to date from February 24, 1891, the date from which he would have been promoted to the grade, by reason of seniority, if found qualified. Par. 1, S. O. 45, A. G. O., February 27, 1891.

Cronkhite, Henry M., Major and Surgeon, will, by direction of the Secretary of War, report in person to the commanding officer, Fort Adams, Rhode Island, for temporary duty at that post until the arrival of a successor to Major Samuel M. Horton, Surgeon, when he will return to his proper station. Par. 8, S. O. 45, A. G. O., Washington, D. C., February 27, 1891.

Marine-Hospital Service.—*Official List of the Changes of Stations and Duties of Medical Officers of the United States Marine-Hospital Service for the three weeks ending February 28, 1891:*

Pettus, W. J., Passed Assistant Surgeon. Relieved from special duty as Inspector of Immigrants at port of Boston, Mass. Ordered to Marine Hospital, Boston, Mass. February 10, 1891.

Perry, T. B., Assistant Surgeon. Granted leave of absence for thirty days. February 20, 1891.

Goodwin, H. T., Assistant Surgeon. Relieved from duty at Cincinnati, O. Ordered to Marine Hospital, New York. February 9, 1891.

Cofer, L. E., Assistant Surgeon. Detailed for special duty as Inspector of Immigrants, port of Boston, Mass. February 10, 1891.

Eager, J. M., Assistant Surgeon. Assigned to temporary duty at Cincinnati, O. February 20, 1891.

Appointment.

Eager, John M., of Pennsylvania, commissioned as Assistant Surgeon by the President, February 16, 1891.

Society Meetings for the Coming Week:

Monday, *March 16th:* New York Academy of Medicine (Section in Ophthalmology and Otology); New York County Medical Association; Hartford, Conn., Medical Society; Chicago Medical Society.

Tuesday, *March 17th:* New York Academy of Medicine (Section in Theory and Practice of Medicine); New York Obstetrical Society (private); Medical Society of the County of Kings; Ogdensburgh, N. Y., Medical Association; Baltimore Academy of Medicine.

Wednesday, *March 18th:* New York Academy of Medicine (Section in Public Health and Hygiene); Northwestern Medical and Surgical Society of New York (private); Medico-legal Society; Metropolitan Medical Society (private); Harlem Medical Association of the City of New York; Medical Society of the County of Allegany (quarterly), N. Y.; New Jersey Academy of Medicine (Newark).

Thursday, *March 19th:* New York Academy of Medicine; Brooklyn Surgical Society; New Bedford, Mass., Society for Medical Improvement (private).

Friday, *March 20th:* New York Academy of Medicine (Section in Orthopædic Surgery); Baltimore Clinical Society; Chicago Gynæcological Society.

Saturday, *March 21st:* Clinical Society of the New York Post-graduate Medical School and Hospital.

Answers to Correspondents:

No. 349.—Write to the Examination Department of the University of the State of New York, Albany, and comply with the requirements of which the department will inform you.

Letters to the Editor.

THE USE OF SUPPOSITORIES.

Elizabeth, N. J., *January 29, 1891.*

To the Editor of the New York Medical Journal:

Sir: My attention was recently called to the insolubility of suppositories. I made an autopsy on the body of a woman who was supposed to have died of carcinoma. The case presents some interesting features aside from the fact that I found no fewer than six suppositories between the rectum and the transverse colon. They were hard, flattened, and elongated; some imbedded in fæcal matter and some quite free and clean. These suppositories were made by a well-known firm in Philadelphia, and were supposed to contain morphinæ sulphat., gr. ss.; atropinæ sulph., gr. $\frac{1}{100}$. There is no doubt in my mind that they contained wax, and but a small amount of cacao butter. They are put up for the trade and will remain hard during the summer season. This woman died from the effect of morphine. Her suffering was intense and the attendant introduced a suppository; in an hour another was introduced, and within an hour more a third one was pushed into the rectum. I am of the opinion that they were only partially dissolved; but the aggregate amount of morphine liberated during those two hours was enough to produce death. Another interesting feature in the case was this: The patient had a tumor appear in the left mamma. She persuaded herself it was carcinomatous, although her family physician had told her it was not a malignant growth. Feeling satisfied, however, that it was a cancer, she went to an institution in the central part of New York State and had it removed by the aid of plasters. In about a year's time she began to suffer intensely with pain in the abdomen. She was then convinced that her vital organs were being eaten out by cancer. She was examined by several eminent surgeons, and they all expressed an opinion that she had no cancer. She had made up her mind that she had, and died believing that her organs were destroyed by this dreaded disease. The autopsy showed every organ to be normal and no trace of carcinoma could be found. Her pain was probably of a neuralgic nature, as she often suffered from neuralgia in the face. These tumors in the colon could be distinctly felt through the abdominal wall, and, before opening the body, it was the general opinion that they were growths of some kind. I would state that she had an enema about four hours before death, but it is very evident that it was not enough to bring away these masses of wax. In conclusion, I have to say that the practitioner who uses other than a freshly made morphine suppository subjects his patient to the dangers of morphine poisoning, if not death.

Norton L. Wilson, M. D.

Proceedings of Societies.

NEW YORK SURGICAL SOCIETY.

Meeting of January 14, 1891.

The President, Dr. Charles K. Briddon, in the Chair.

Rupture of a Phalangeal Tendon; Tumor of the Median Nerve.—Dr. C. McBurney presented a patient who, while taking off his stocking, had felt a sudden pain in the back of his wrist joint and middle finger. He had found himself unable to extend the finger. A diagnosis of rupture of the extensor tendon of the middle finger opposite the last phalangeal articulation was made. On incision, this diagnosis was confirmed. The severed ends were brought together with catgut, and the finger was kept in extreme extension for four weeks. At the present time the functional result was perfect.

Another lesion in this patient was of considerable interest. The patient had been shown to the society about two years before. The man had come to the speaker in February, 1886, complaining of the presence of a tumor of considerable size on the inner aspect of the middle of the right arm. Two months previously he had first experienced pain. When the growth was interfered with by pressure, pain would be felt through the forearm and the hand. The function of the limb was normal. It was uncertain whether there existed a tumor of the median nerve or whether the growth was superficial to the nerve and pressing on it.

The patient was treated by operation in February. An incision was made and the deeper structures were exposed by dissection. A tumor of the size of a hen's egg was found, its surface presenting a shining membrane. The median nerve was seen to enter the tumor at its upper border and to emerge from it below. Delicate strands ran over the growth and formed a sheath. The connecting bands between these strands consisted of delicate connective tissue. The tumor was situated in the median nerve and was sheathed by its separated fibers. An incision was made parallel with the fibers, in the long axis of the tumor, and the capsule dissected off, carrying with it fiber after fiber of the nerve. The growth was then shelled out with comparative ease. The operation had required the severance of some bundles of nerve tissue. After the enucleation of the tumor the collapsed sac, made up largely of nerve fibers, represented the nerve itself. Another small tumor had existed just above the larger one, and to get this away also required a sacrifice of considerable nerve substance. The functional result in this case had been perfect, and the chief point of interest in the case was the fact that this good functional result had continued up to the present time, a period of five years.

The pathologist, Dr. F. Ferguson, had reported the tumor as oval in shape, measuring two inches and a half in length and an inch and a half in diameter. It was surrounded by a delicate fibrous capsule and composed of fibrous tissue and spindle cells. The spindle cells were very abundant. The diagnosis was that of fibrosarcoma.

Suprapubic Section.—Dr. McBurney then presented a number of patients on whom he had recently performed suprapubic section. In all the cases he had been, from the nature of the lesions as diagnosticated, induced to do the high operation, making the usual vertical incision, the rectum being first distended with a rubber water-bag containing six ounces of water and the bladder with a similar quantity of Thiersch's solution. The stone, or whatever called for the operative interference, being removed, the bladder wound was then closed with sutures of fine catgut, and when it was absolutely tight the abdominal wound was closed with deep-buried sutures and the skin with silk. At the lower end of the wound a drainage-tube was then inserted as far as the bladder wall only. After this procedure was completed the perinæum was opened by a small incision and a rubber tube introduced into the bladder through this opening. By the lower perineal tube the bladder was kept perfectly freed from urine as fast as it entered, while the upper tube provided against a possible escape of urine above.

One of the cases was somewhat unique. The patient, a young man, had acquired a urethritis and had wished to treat himself. As he possessed no bougies, he had improvised one out of tutti-frutti" gum. While he was endeavoring to pass this it had broken off in the canal. A portion of it was expelled, but a piece had remained and had found its way back into the bladder. Irritation had at once resulted, and two months ago the patient had come under observation for treatment. On examination with the searcher, a stone was felt, and, as it was apparently large and as the gum nucleus would not easily be crushed, the high operation was chosen. All the cases had gone on to complete recovery without untoward symptoms.

Another case was that of a female patient who, some eighteen months ago, had noticed symptoms pointing to the existence of cystitis, and had, two months after this, observed an escape of blood on urination. The speaker had examined the patient with Dr. Tuttle, and had concurred with him that there was a tumor present, digital exploration of the bladder through the urethra conveying to the finger a sense of the presence of a number of soft, large elevations upon the bladder wall. The operation was accordingly undertaken for tumor of the bladder.

The high section was chosen in this case also. To permit of the most thorough examination of the interior of the bladder, no vertical incision, but a transverse cut, was made close to the pubes. This had enabled the operator to draw up the bladder wall and to examine it thoroughly. There was no tumor present, but the surface of the bladder was in just such a state of degeneration as would be produced by an intense cystitis. Masses of granulation tissue were piled up at several different points, and these were covered by a layer of urinary salts. This material was scraped away and the bladder was then treated in a manner similar to that employed in the other cases, except that in this latter instance the tube was carried down into the bladder and then out through the urethra. This patient was now absolutely well. The case had been one of hæmorrhagic cystitis.

Resection of the Rectum, with Plastic Transplantation of the Anal Portion.—Dr. F. Lange presented two patients. In one of them an extensive removal of the rectum had been done for strictures and ulcerations, of a specific nature, that had proved rebellious to all possible general and local treatment, and inguinal colotomy had been tried, though the patient had had the latter done four or five years before the last operation (fully two years ago). This patient was now about forty years old. In the other patient, a man of over sixty, the operation had been done two years before for cancer of the rectum situated high. In both cases the peritonæum had been opened freely. To close the wide gap between the resected ends of the gut, and, if possible, to preserve the muscular power of the anus, in both cases the following operation had been performed by the speaker: An incision was made from each tuber ischii across the perinæum, in front of the sphincter. The incisions met in the rhaphe, and were made deep enough to allow of pushing the whole muscular apparatus of the anus upward, with the anal portion of the gut. Thus in each case fully two or three inches were gained, and exact union of the gut with sutures was achieved. In the colotomy patient, the colotomy wound was finally closed by suture. The scar in each case was shaped like an anchor, its arms corresponding to the lateral-flap incisions.

Both men were now in very good condition; they were both able to hold consistent fæces, and there was a decided sphincter action, as might be seen, but not energetic enough to restrain liquid fæces.

The speaker recommended this mode of operating in cases in which the sphincters could be preserved and the upper part of the gut was not movable enough to allow of its being pulled down to the anal ring.

Simultaneous Excision of the Rectum and Extirpation of an Intraligamentous Ovarian Tumor after Removal of the Lower Part of the Sacrum.—Dr. Lange presented the specimens and gave the following history of the case: A woman, about thirty-six years old, with a history of syphilis, had been suffering for years from stricture of the rectum. The lower border of the stricture could barely be reached with the index finger. Repeated attempts to use bougies had always made her ill, chills and a feverish condition often following. She had been under the care of different physicians. In October, inguinal colotomy was done, and, eight weeks later, the diseased portion of the gut, six or seven inches long, was removed after excision of the coccyx and the last and half of the adjoining sacral vertebræ. The operation was very difficult and tedious. The tissues were matted together and still brittle, so that the ligatures would often cut through. Through the wide gap an intraligamentous multilocular ovarian cyst of the right side was also removed. It was of about the size of a child's head, and was extensively adherent and difficult to remove. The attempt to unite the gut had to be given up, the patient's strength having already been tried to the utmost. The upper end was inverted and closed by suture. It was found that it was only three or four inches away from the colotomy wound. The patient was now, five weeks after the operation, making a good recovery. The speaker intended to do a further operation for closing the gap. For this purpose, it remained to be seen whether there was large intestine sufficiently movable; at the colotomy it had been found that the mesocolon was short. If that should not be the case, he thought of transplanting a portion of small intestine between the resected ends, and finally closing the colotomy wound. He had presented before the society another patient in whom about ten inches of the large intestine had been removed for the same disease. That patient had preferred to keep her colotomy opening. In another case he had, at two operations, removed twenty-two inches and a half of large intestine for cancer and recurrent disease. The old gentleman was still living and feeling well, though almost three years had elapsed since the first operation, and almost two years since the second. Recurrence was, however, most probably present in the shape of some papillary formations of the mucous membrane. The speaker had repeatedly found that removal of large intestine where it began to be movable was a comparatively easy task, but great difficulties were sometimes met with in the region of the sacrum and the promontory.

Cancer of the Uterus.—Dr. Lange also presented a uterus and the surrounding portion of the floor of the pelvis, removed from behind, for recurrent cancer, after resection of the lower part of the sacrum, the incision being carried alongside the rectum on the left side, ending between the tuber ischii and the anus. The field of operation had been made very accessible in this way, and both ureters could be distinguished, although one of them had been ligated for a minute and afterward became partially patent.

The patient had made an uninterrupted good recovery and been discharged at the end of six weeks with incomplete ability to empty the bladder, which had been pulled backward by the peritoneal sutures. She had, however, lately gained in this respect and would probably be entirely restored to health so far as urination was concerned. The speaker thought that such operations were of only transient value, since recurrence of the disease after a comparatively short time was probable. It was a matter of technique to make them safe enough to give the patient all the benefit possible. The operation had the advantage of giving good access to the diseased areas. Parts of the floor of the pelvis and the broad ligament might be removed, and the uterine arteries and the ureters readily distinguished. In the case reported, a portion of the muscular layer of the bladder also had been removed, and it had been observed that the mucous membrane at once formed a hernial protrusion through the opening; consequently the latter was closed with catgut sutures.

Removal of a Pharyngeal Epithelioma.—Dr. Lange then presented a patient upon whom he had operated for epithelioma of the left wall of the pharynx, the tonsil, and the soft palate. This had made its appearance about six months before. The speaker had operated by cutting across the inferior maxilla in front of the angle, after splitting the cheek from the mouth downward and upward. A curved incision in the submaxillary region was also made in order to remove the submaxillary glands. The presence of this opening was favorable, as it allowed the blood to escape externally instead of getting into the air-passages. Some suppuration had interfered with the healing, and limited necrosis of the jaw had occurred; still, the result was surprising from the fact that, notwithstanding the great loss of substance required for the removal of the growth, the parts were covered by the posterior wall of the pharynx, the mucous membrane being drawn forward with the soft palate of the opposite side. There was some limitation to the movement of the bone, also some interference with the articulation, which was of a nasal character. Swallowing was not disturbed at all.

Fracture of the Anatomical Neck of the Humerus.—Dr. L. A. Stimson presented a patient who, in December, 1889, had been thrown down by the horses of a street-car and had fallen on his back in such a way that as the car passed over him the edge of the front platform caught against his right elbow and pressed the arm with great force upward and backward against the scapula. The symptoms were complete loss of function, with swelling and pain at the shoulder; the greater tuberosity rotated with the shaft; the acromion, the coracoid, and the neck of the scapula were uninjured; pressing the arm upward against the acromion gave pain and was accompanied by crepitus. He was treated in the recumbent posture with traction upon the arm for five weeks. He now had no deformity and almost complete use of the limb, abduction only being somewhat less than normal.

The speaker thought the fracture one that rarely occurred, and that in most of the cases it took place after forward dislocation of the bone, the head being cut off by forcible impact against the anterior edge of the glenoid fossa, as shown by several specimens in which partial separation had been thus produced. The diagnosis in cases not combined with dislocation must always be somewhat uncertain because of the inaccessibility of the head of the humerus to palpation. Theoretically, the diagnosis might be made by ascertaining that the head did not move with the shaft and tuberosities, but in practice that fact could not be determined, because the head was too thickly covered and too unfavorably placed to be grasped by the thumb and fingers. The mode in which the force had acted in this case was in harmony with the mechanical conditions which, in theory, should produce such a fracture; and the crepitus, obtained as described, had seemed to him to justify the diagnosis.

The treatment by long-continued traction was intended to prevent a secondary result that had been observed in other cases—namely, the gradual dislocation of the detached head forward and inward by the action of the muscles which drew the shaft upward and inward.

Simultaneous Dislocation of Both Shoulders.—Dr. Stimson also presented a patient who had been shown to the society in May, 1890 (see *N. Y. Med. Journal*, Sept. 20, 1890, p. 328), with dislocation of both shoulders, in one of which arthrotomy with division of the tendon of the subscapularis had been necessary to effect reduction. He was presented again to show the ultimate result. The paralysis of the right deltoid and swelling of the left arm (the one operated on) had disappeared. Abduction was restricted on both sides, rather more so on the left than on the right; rotation was almost complete; the backward and forward movements were about one half. The patient was at work, running an elevator.

Some Clinical Features of Stone in the Bladder.—This was the title of a paper by Dr. L. B. Bangs. (To be published.)

Dr. A. G. Gerster said that it was his experience that the searcher often failed to detect one, or even several, large stones in the bladder, and this after repeated examinations. He recollected a case where four different explorations had failed to discover the stone which an operation had revealed, and which had weighed two thousand grains. He rather doubted that any mucous covering to the stone would be sufficient to veil the characteristic click, but thought that the intervention of one or more folds of mucous membrane would possibly do this. This was particularly likely to be the case in elderly people, in whom the bladder walls were flabby and non-contractile, and hence, when the organ was emptied, would collapse and gather into folds. Personally, he had never failed to detect the presence of stone when he had made the examination with the patient under an anæsthetic. He would, however, strongly advocate the use of the cystoscope in making these explorations.

Dr. Stimson thought that a layer of mucus would hardly prevent the detection of stone. He had found it easy to make a very satisfactory diagnosis by means of bimanual examination. As to the operative methods, he had, during the past year, done suprapubic sections for various diseases some eight or ten times, and had been very much pleased with it. He should, he thought, make it the operation of choice; and should feel ready to do it for other cases of less urgency than stone. As to the closure of the wound after suturing of the bladder, he had had only one experience, and then the success had not been complete; there had been a little leakage. He had found no difficulty in the closure of the suprapubic wound, even after he had intentionally kept it open for several weeks.

Dr. Willy Meyer strongly urged the use of the cystoscope in doubtful cases of stone. By the employment of this instrument, he said, every part of the bladder could be inspected thoroughly. It was almost impossible not to see even the minutest stone, provided the water injected into the bladder remained transparent during the short time of the examination. Especially stones lying in the groove behind the swollen prostate could thus be diagnosticated in every particular with unsurpassable exactness. These stones, as was well known, quite frequently escaped the searching hand even of very experienced surgeons. The cystoscope also enabled one to make the diagnosis of encysted stones. One could see diverticula approach their neck under the guidance of the eye, and then, the light being first turned off, they could be explored with a thoroughness impossible in any other way.

Femoral Aneurysm; Rupture; Extirpation.—Dr. Stimson presented a specimen of femoral aneurysm removed by operation. The patient, a man thirty-nine years old, was admitted into the New York Hospital on January 8th. A week previously he had noticed, for the first time, a swelling on the inner side of his right thigh; it increased in size rapidly, and was painful. On his admission, there was a globular swelling on the inner side of the thigh, occupying the middle third and part of the lower third, and about six inches in diameter, with well-marked expansive and heaving pulsation and a soft, blowing bruit. The skin was not involved. The pulse at the ankle was good. The diagnosis was that of ruptured aneurysm of the femoral artery. The next day pulsation in the tumor had almost entirely ceased, but the murmur persisted, and on the following day the pulsation returned, but was less strong. There was considerable pain, and the temperature ranged between 101° and 104° F. On December 12th the femoral artery was exposed just above the upper limit of the swelling and a catgut ligature drawn about it sufficiently tight to arrest the current, and then a longitudinal incision was made along the center of the swelling and carried past the side of the vastus internus, opening into a cavity almost as large as the two closed fists, which was filled with clotted and liquid blood. After the removal of the blood the aneurysm, as large as a horse-chestnut, came clearly into view; the artery was exposed below it, tied with catgut and severed, and the aneurysm was dissected away from the femoral vein from below upward and cut away with half an inch of the artery above it. The stump of the artery was tied and the first ligature, applied in continuity above, was drawn tight and tied. A counter-opening for drainage was made in the posterior wall of the cavity and the incisions were closed.

Extirpation of an aneurysm was an operation that had recently come into favor abroad, but the speaker thought it had not heretofore been employed in this country. He had resorted to it in this case because he feared the effect of the pressure of the large mass of extravasated blood upon the venous circulation, and because the fever and pain suggested impending suppuration of the sac. The aneurysm was sacciform, communicating with the artery by a smooth oval opening half an inch long; on the lower side of the thin-walled sac there was a rupture a quarter of an inch long.

Suprapubic Cystotomy.—Dr. Frank Hartley exhibited two specimens of large calculi which he had recently removed by suprapubic section. One was from a patient seventy-nine years of age. The stone weighed 1,020 grains. Notwithstanding the age of the patient, the bladder wound had healed by first intention throughout, except at the drainage-tube opening. The second stone had been removed from the bladder of a young man of twenty. The nucleus of the formation was a portion of a pencil of "tutti-frutti" gum which had broken off while being pushed into the urethra.

Multilocular Adenocystoma of the Breast; Removal; Recovery.—The President showed a specimen with the following history: Mrs. L., aged forty-six, married, had entered the Presbyterian Hospital in his service on December 15, 1890. There was no morbid family or previous morbid personal history. In early life she had injured her left breast by a fall; she dated the increase in the size of the breast from the accident. The growth had been slow at first; one year ago it commenced to increase in size rapidly. During the past four months its bulk has been greatly augmented—so much so that respiration and progression were rendered difficult by reason of the dragging pains, especially marked when the upright posture was assumed. On December 19, 1890, the offending mass was removed, the axilla was explored, a counter-opening for drainage was made, and with a continuous suture the wound was closed. The parts removed weighed five pounds six ounces. At the first dressing, on the 29th, primary union was found throughout. Convalescence had been uninterrupted, and the patient was discharged cured on January 9, 1891. The specimen measured about 8 × 7 × 6 inches, and weighed sixty ounces after being in dilute alcohol. On one side there was a triangular piece of skin measuring about four inches, and with a nipple at one angle. The mass contained some adipose and some fibrous connective tissue, but consisted for the most part of a tissue of yellowish-gray color and fine gelatinous consistence. This tissue was not circumscribed, but had an irregular nodular arrangement. Sections taken from different parts were found to consist mostly of mucoid tissue with large multipolar branching cells imbedded in an intercellular substance which was hyaline, taking a faint hæmatoxylin stain, and had some fine fibers running through it. In places there were seen numerous small glandular alveoli or ducts, and in places there was found connective tissue quite rich in cells. The diagnosis was that of myxoma.

Double Talipes Equino-varus; Cuneiform Osteotomy.—The President then presented another specimen. Louisa B., aged four, entered the Presbyterian Hospital in his service on September 12, 1890. She had been operated upon by the late Dr. Sands in December, 1887; the nature of this operation was a tenotomy of the tendo Achillis; this, with the aid of apparatus, had partially corrected the equinus. At the first operation, on September 20th, under the strictest antisepsis, a cuneiform wedge was removed from the right tarsus, including the calcaneo-cuboid and part of the astragalo-scaphoid articulations. Tenotomy of the tendo Achillis was also done. The foot was forcibly abducted, everted, and flexed. Immobilization was accomplished by the use of plaster-of-Paris dressing covering a trough-like posterior splint provided with a foot-piece. At the second operation, on October 25th, the same steps were taken as in the first one. The feet were immobilized with glass splints after this fashion: Several turns of a muslin bandage were carried around the metatarso-phalangeal articulation from without inward, and forcible eversion of the foot was made by an assistant making traction on the bandage in a direction upward and along the outer side of the leg. While the foot was in this position of supereversion and the patient under an anæsthetic, a glass splint was applied; over this there was applied a plaster-of-Paris dressing, on account of the length of time required for the silicate of sodium to dry. The muslin bandage around the toes was removed after the plaster had hardened sufficiently, and in forty-eight hours the plaster was removed and the patient allowed to walk on the glass splints. On January 14th the glass splints were removed, and the posture of the feet was almost perfect.

Suprapubic Cystotomy.—The President also presented two specimens of stone. The first patient, an Englishman, sixty-three years old, entered the Presbyterian Hospital on October 9, 1890, suffering from symptoms which led to an exploration of the bladder. Thompson's searcher was introduced and a stone found. On the 18th a suprapubic incision was made, and a stone removed weighing 102 grains and measuring three inches in its longest diameter and two inches and a half in its shortest diameter. It was composed of calcium oxalate, with alternating phosphatic layers. Drainage had been facilitated by the use of Trendelenburg's T-shaped tube modified by the speaker. On November 20th the suprapubic wound had closed.

The second patient was a German, seventy-two years old, who was admitted on December 2, 1890. On March 12th he was operated upon for vesical calculus by suprapubic incision, and nine stones were removed. The operation was Dr. Hunter McGuire's modified by the speaker, an effort having been made to create a sphincter for the artificial urethra made for permanent suprapubic drainage by bringing together the recti muscles around the T-shaped tube at the wound's upper angle. On December 30th the patient was convalescing well. On account of phosphatic concretions in the wall of the bladder near the point of entrance of the new urethra, curetting was found necessary. The use of the recti as a sphincter had not worked satisfactorily. On January 14th the patient was doing well; he was still in the hospital.

Meeting of January 28, 1891.

The President, Dr. Charles K. Briddon, in the Chair.

Calculous Pyonephrosis; Abdominal Nephrectomy; Recovery.—Dr. F. H. Markoe presented a patient upon whom he had operated for this condition, together with a very characteristic specimen consisting of the enucleated kidney with the calculus *in situ*. The history was as follows: A man, thirty-four years old, had been a quarryman for a number of years working at Blairsville, Pa. He had been an irregular drinker and had had several attacks of gonorrhœa, but denied syphilis and gave a good inheritance. He had always enjoyed fair health, working from April to November in the quarries and spending the five other months in doing odd jobs about New York. In 1875 he had an acute retention of urine which lasted twenty-four hours, and which was suddenly relieved while he was severely straining to pass water by the forcible ejection from the urethra of a calculus of the size of a cherry-pit. He had never had any attacks of colic, and from that day had enjoyed perfect health until 1886, when he was struck a violent blow in the left loin by a man with whom he was scuffling. Hæmaturia had followed and persisted for several days, but its subsidence had left him apparently as well as before. He continued in good health until the spring of 1888, when he began to suffer from pain at the site of the above-mentioned injury, and at the same time noticed pus in his urine. These symptoms persisted and his general condition steadily deteriorated. In January, 1889, he was so much incapacitated by his suffering that on the 31st he was admitted into St. Catherine's Hospital, Williamsburg, where the attending surgeon, Dr. James F. Feeley, discovered and incised a large abscess in the left loin. A considerable amount of apparently healthy pus was evacuated, and digital exploration of the cavity proved negative. The wound healed completely, but the patient's general condition did not greatly improve. He left the hospital on May 8th, declining all further treatment, and came to New York, and on July 11th entered Bellevue Hospital in the service of Dr. W. B. James, who, recognizing the existence of pyonephrosis, referred the case to the speaker for operative interference. When admitted, the patient was thin, sallow, anæmic, bent markedly toward the left side, and wearing an expression of great suffering. Physical examination revealed no evidences of pulmonary or cardiac disease, but in the left side of the abdomen a tumor was plainly felt, firm, smooth, and absolutely immobile, extending from the free border of the ribs to the ilium. Percussion gave a tympanitic note in front with dullness laterally and behind. Palpation was painful, but the rest of the abdomen seemed normal. The urine contained a large amount of pus. Owing to the depressed condition of the patient and the intensely hot weather, operative procedures were postponed and good food, moderate stimulation, and rest in bed ordered. He was returned to the speaker on September 29th, having gained greatly in flesh and strength, but with no improvement in the local conditions. On the following day the speaker removed the kidney, choosing the abdominal incision (Langenbuch's) because of the size of the tumor, its evident adhesions, and the diminished size of the ilio-costal interspace. The operation lasted about an hour and a half. The incision, five inches in length, was made through the left linea semilunaris, and the peritonæum, which was normal, was opened throughout the length of the wound. The descending colon lay in front of the tumor, being projected well forward by it. The outer layer of the mesocolon was then incised for about three inches parallel to the gut and the colon with the rest of its mesentery easily stripped from the anterior face of the kidney. The speaker's colleague, Dr. Hartley, then lifted it up and with flat sponges shut off all communication with the general peritoneal cavity. The kidney was imbedded in a mass of dense cicatricial tissue, the result of the former perinephritis. Beginning below, the operator was enabled, after some time and with much difficulty, to enucleate the inferior extremity from its bed, exposing in so doing the ureter, which was intimately incorporated in the cicatricial mass and found to be occupied in its dilated portion, the pelvis, by two calculi; this was divided between two ligatures. On attempting to reach the superior extremity the speaker was obliged to desist until he had reduced the size of the organ by opening into and evacuating its dilated and tense pouches. By these incisions he evacuated several ounces of intensely fœtid pus and urine, and, on exploring with the finger, found the kidney to consist of "a chambered sac" in which lay another large, irregular calculus. After thorough cleansing of this cavity the enucleation was proceeded with and soon accomplished. The pedicle was surrounded with a stout sterilized silk ligature and the kidney carefully cut away, a small button of tissue being left attached to the vessels to prevent any possibility of the ligature slipping. The cavity thus left was thoroughly irrigated and drained posteriorly with a large rubber tube. A single bleeding point on the margin of the colon was tied and a small tear of the spleen accidentally made by one of the retractors touched with the actual cautery and pressure made against it with a pad of iodoform gauze until all oozing had ceased. The abdominal wound was then closed, the tissues being sutured in three layers with a continuous catgut suture. A Keith's glass tube filled with iodoform gauze was left in the upper angle of the wound and the whole abdomen was enveloped in a large antiseptic dressing held in place by broad bands of adhesive plaster. The patient reacted perfectly from the ether, showing comparatively little shock in proportion to the length and severity of the operation. As no urine had been passed by 9 P. M., the house surgeon attempted to pass a soft catheter, but was prevented by a tight constriction in the penile urethra; this was overcome by a tunneled catheter passed over a filiform bougie, and four ounces of fœtid urine and pus were evacuated. The bladder was then thoroughly irrigated with warm borosalicylic solution, and from this time the urine remained perfectly clear and normal.

On the morning of the fourth day the abdominal tube was removed and the pulse, which had ranged between 130 and 150, immediately fell to 116. The temperature after the third day remained below 100° F., and the average daily amount of urine passed was fifteen ounces, with four or five watery passages from the bowels. Everything went well until the eleventh day, when the temperature began to rise and the patient to complain of pain in the abdominal wound. On the fourteenth day a discharge of pus occurred through the sinus left by the anterior tube, and examination showed that, although the skin wound was firmly united except at this point, a mural abscess existed beneath. The whole wound was then opened, irrigated, and loosely packed. On the seventeenth day there was a sudden discharge of a large amount of intensely fœtid pus, which, from its odor and appearance, was thought to be mixed with fæces, although no formed material was found. There was no further discharge from this wound, but on the twentieth day a small abscess, filled with similar material, opened just above the posterior drain, but closed immediately. No further drawbacks occurred, the temperature becoming and remaining normal. The patient was allowed out of bed during the fifth week, and at once the urinary secretion became normal in amount. Careful analysis of it showed nothing abnormal save a few gonorrhœal shreds. The wound healed rapidly by granulation and the patient left the hospital in February, 1890, in perfect health. Since then he had worked as before in the quarries and had suffered no inconvenience whatever from the loss of his kidney. The kidney contained three large and three small calculi.

The President said he could call to mind three cases illustrative of the phases of Dr. Markoe's. One was that of a child in whom a small calculus had been found imbedded in the meatus and another in the bladder. The second case had reference to the difficulty of doing nephrectomy through the loin for the removal of large kidneys. He remembered having made the attempt in one instance some years ago, and to have found it absolutely impossible to effect the enucleation. The patient was quite fat and the distance from the external surface to the kidney was the length of the index finger. He had then opened the abdomen through the border of the rectus muscle, and the operation was done without the slightest difficulty. The third case had been that of a child in whom nephrectomy of one side had been performed through the loin. A sinus had remained for a considerable time, which had begun to discharge fæcal material, and this discharge had continued up to the time of the child's death, which had occurred from degeneration of the viscera. On examination, large ulcerations were found, one of them perforating the intestine. The remaining kidney was found to have a calculus imbedded in its ureter. There had, however, existed the abnormity of a double ureter, and this fact alone had prolonged the child's life after the operation. The specimens in this case—the kidney, the double ureter, and the calculus imbedded in one of the ureters—had been shown to the society some years ago. In the opinion of the speaker, these fæcal fistulæ had their origin in the destruction done to the vessels at the time of the operation, or rather in the interference with the nutrition of the intestine by the shutting off of a portion of the blood supply.

Ligature of the Subclavian and Carotid Arteries for Aneurysm at the Root of the Neck.—This was the title of the paper of the evening, read by Dr. T. M. Markoe. (See p. 291.)

Dr. J. A. Wyeth said that the aneurysm in Dr. Markoe's case seemed to belong to the class in which there existed a general fusiform dilatation of the innominate artery involving the bifurcation into the carotid and subclavian, rather than a well-defined saccular aneurysm. He had looked up this subject some years ago and had made a number of examinations of specimens after death. There was one such specimen in the Wood Museum of Bellevue Hospital. The innominate artery was filled with plaster, and was about normal in caliber. The patient in this case had died from some other disease several years after ligation of the vessels. The speaker thought that this case was very much like the one presented, and probably the same result would follow. He had treated two cases of aneurysm of the arch of the aorta by simultaneous ligation. In the first case there had existed all the symptoms of an aneurysm of the ascending arch of the aorta. The tumor had never appeared above the first rib, and the symptoms of pressure within the chest had for a considerable time preceded any appearance of swelling. In this case the speaker had tied the right carotid and the right subclavian. Within five hours the aneurysm had subsided an inch and had gone on gradually disappearing. This patient had died a year afterward, and the autopsy had shown that consolidation of the aneurysm had taken place with the exception of a small central cavity no larger than an almond. The second case was one of well-defined aneurysm of the transverse segment of the arch of the aorta. The patient was suffering from syphilitic gummata of the lungs, and died in forty-eight hours. The tumor was found filled with old fibrin, which showed that the operation was unnecessary. It probably hastened death a few days. Another case now under the speaker's care was one with symptoms of aneurysm of the aortic arch. There was no pulse in the right carotid or subclavian artery of the affected side when the patient stood up, and only slight pulsation when he lay down. The patient was a syphilitic subject, the history dating back eight years, and the symptoms of aneurysm a year. He was getting large doses of potassium iodide, with complete rest in bed, and was restricted as to liquids. In addition, the speaker had bled him several times, taking from eight to sixteen ounces of blood at a sitting. Each time this was done the aneurysm had undergone distinct diminution. He thought that the condition in this instance had been improved by cutting down the volume of blood.

Dr. J. D. Bryant said his experience was limited to one case. The aneurysm had been diagnosticated by Dr. Janeway, Dr. Smith, and himself, as one of the first two portions of the subclavian, perhaps involving the innominate. The symptoms presented were the same as in Dr. Markoe's case. The speaker, in order to see what effect would ensue, had first ligated the common carotid, and then waited four weeks before tying the subclavian. After the ligation of the carotid the tumor had palpably diminished and had withdrawn from its position near the posterior border of the sterno-mastoid forward into the inferior cervical triangle. Ten days ago he had ligated the subclavian, and the tumor was now still further reduced and was getting smaller. No untoward symptoms had occurred. He had made use of good-sized catgut drawn pretty tight. [On the thirteenth day after ligation of the subclavian the patient died from brain softening caused by an embolus of the right vertebral artery.]

Appendicitis.—Dr. L. A. Stimson exhibited an appendix which he had recently removed. The patient, a young man of eighteen, had on the previous day come to the Chambers Street Hospital. The history was that, having previously been in good health, he was taken on Wednesday, January 22d, with severe abdominal pain and nausea, which had prevented him from working. The next day he resumed work. On Sunday he was free from pain and the bowels moved naturally, and on Monday he worked as usual. On Tuesday, while at work, he was suddenly attacked with intense pain, and was brought to the hospital. When he was seen by the speaker the pain had been quieted with morphine, the abdomen was tense and resonant, the temperature was 104° F., and there was exquisite tenderness in the right iliac region. An operation was at once undertaken. Before reaching the peritonæum the tissues were found to be œdematous. The intestines were deeply injected and coated with fibrinous exudation, and, upon separating them, two or three ounces of fœtid pus escaped. This suppurative process was traced down to the side of the rectum. Further search disclosed the appendix with its apex directed forward and covered by the ileum. The organ was deeply injected. During the manipulation of applying the ligature a small foreign body escaped from a perforation at the apex of the appendix. The wound was dressed in the usual manner. On opening the appendix, it was found that the mucous membrane of its terminal portion was destroyed by ulceration, and that the proximal portion was of a dark color. Its mucous membrane was preserved but diseased. No foreign body was found in the organ, but there were two perforations. The man had given no history of any previous attack. The speaker thought that the points of interest in this case were the extent of the inflammatory processes as against the very slight severity of the symptoms during the five days preceding the patient's admission into the hospital. These symptoms must have been associated with the fibrinous exudation which was found. It did not seem that so much could have formed between the attack on Tuesday and the time of the operation, about six hours.

Hygroma of the Popliteal Space.—The President presented a specimen with the following history, by Dr. F. Le Moyne Hupp: A woman, sixty-six years old, entered the Presbyterian Hospital on November 19, 1890. About a year before she had noticed a lump in the inner side of the right popliteal space. It was tender to the touch and somewhat movable, the skin over its surface was red, but its presence did not interfere with locomotion. It increased in size gradually, but the pain and tenderness disappeared. On her admission there could be felt in the inner popliteal region of the right side a tense elastic tumor. It was semi fluctuating and ovoid, and there was an absence of inflammatory signs. There was no pulsation. The inner hamstring could be traced over its surface, and upon flexion of the leg on the thigh its size was greatly diminished. It measured $3\frac{1}{2}$ inches in its longest convexity by $2\frac{1}{2}$ inches in its shortest. On the 22d an incision $7\frac{1}{2}$ inches in length was made over the tumor's convexity. Careful dissection and enucleation were performed, and there was no communication with the joint. It was covered by the tendon of the semimembranosus and was lying upon the inner head of the gastrocnemius. The wall of the sac was thin in some places and rugged at others. The cyst's contents were clear and serous with some fatty *débris*. The wound healed by first intention. A posterior splint that had been applied was removed on December 8th, and the patient was discharged cured on the 17th. The functional result was perfect.

Multilocular Encysted Hydrocele.—A robust seaman, forty-eight years old, entered the Presbyterian Hospital on January 16, 1891. He had had chronic diarrhœa several years before, and had had yellow fever three times. His previous personal history was otherwise good. He had been tapped for hydrocele three years before. In June last he noticed a swelling in the left side of the scrotum, low down. It gradually increased in size, but, aside from a feeling of heaviness, he had experienced no pain. On his admission, a lobulated mass could be felt in the left side of the scrotum of about the size of a hen's egg. It seemed to be continuous with the testicle and epididymis, and was sensitive to pressure. A mass of varicose veins could be felt above the tumor. The spermatic cord could be isolated above the mass and was apparently normal. On the 17th, with every attention paid to antiseptic details, a longitudinal incision was made over the mass and the scrotal tissues were carefully divided. The lobulated, transparent mass was intimately adherent to the epididymis. The adhesions were broken down and the various ensheathing tissues carefully removed, and the tumor with its numerous cystic compartments was removed entire. The varicose veins were ligated and excised. The wound was closed and dressed antiseptically. Primary union had taken place throughout. The patient was still in the hospital and doing well. The notes of this case also had been prepared by Dr. Hupp.

Reports on the Progress of Medicine.

DISEASES OF CHILDREN.

By FLOYD M. CRANDALL, M. D.

Asthma in Children.—Blanche (*L'Union médicale*, November 13th) gives a summary of his studies upon this subject. Three elements appear in every attack of true asthma: (1) Dyspnœa, the nervous manifestation; (2) emphysema, the alveolar manifestation; (3) exudation, the catarrhal element. One of these usually predominates, according to the stage of the disease or the condition of the patient, forming three clinical types. Nervous asthma is not uncommon in children, and is frequently due to reflex irritation. The study of nasal asthma is of recent date, but it is a form frequently found in children. Mucous polypi are rare, but adenoid growths are very common in children. Hypertrophies of the mucous membrane are common and arise from the same causes as in the adult. A child predisposed by hereditary tendency, by diathesis, or by diseased nasal membrane may suffer an attack from numerous exciting causes.

For relief of the paroxysm the author employs the ordinary inhalations. If these fail to give relief, he frequently resorts to small hypodermic injections of morphine, but they must be used with the utmost caution in young children. Belladonna is efficient, is well tolerated by children, and may be employed for long periods of time. Lobelia and grindelia are also effective in some cases. Inhalations of the vapor of pyridine will sometimes break a paroxysm.

In the curative treatment we must rely largely upon the iodides and arsenic. The iodides are not indicated when the disease is hereditary, but treatment should be directed toward the nervous system. In rheumatic cases iodides are sometimes indicated, but the treatment should be more especially directed toward the constitutional condition. All obstructions in the air-passages should as far as possible be removed, and nasal asthma, of course, requires local treatment.

Pericarditis in Young Children.—Ten cases are reported by Dr. Knopp (*Arch. f. Kinderhk.*, xi, 4, 1890), three being in children under one year of age. In the new-born infant the disease usually results from some septic condition. Tuberculosis is the chronic condition which chiefly predisposes to pericarditis. Inflammatory diseases of the pleura, lungs, or any structure of the chest may act as exciting causes. In very young subjects the usual symptoms and signs are to be detected only after repeated and careful examinations.

The autopsy in these cases showed the exudation to be scanty. It was of uniform consistency, without fibrinous deposits or lumpy masses.

In older children the diagnosis is also, as a rule, difficult. To make a positive diagnosis, examinations must sometimes be made day after day for a considerable period. The chief symptoms, as observed by the author, are a small and frequent pulse, a temperature above normal, œdema of the face and lower extremities, and the presence of a small quantity of albumin in the urine.

Diphtheria in Animals and Man (Davison, *Brit. Med. Jour.*, Oct. 25, 1890).—These observations were made in Buenos Ayres, where diphtheria has been very prevalent. Most of the houses in that city have open spaces within known as *patios*. They are not paved, and among the poorer classes horses and hens are kept in them. The soil is retentive and always damp, and hens living in these places are subject to a throat disease which is without doubt diphtheria. From the statistics given, there seems to be no doubt that children in large numbers contract the disease from these animals. It is well known that in the French army diphtheria is three times as prevalent in the cavalry regiments as in the infantry. The same thing holds true in Germany and in other countries.

Nature and Treatment of Diphtheria.—This subject is considered in a lengthy article by Sevestre (*Le Progrès méd.*, Sept. 27, 1890). He reviews the work of Klebs, Loeffler, and others, and discusses the probable action of bacteria in the production of the disease. Injections of the culture liquid of the bacillus of Klebs, deprived by filtration of the germs themselves, invariably produce the toxic symptoms of diphtheria. The evidence seems to the author clear that these symptoms are due to a poison generated by the bacilli. It is not, however, sufficient to explain all the phenomena of the disease, and there is no doubt that numerous other germs are concerned in their production. He holds strongly the belief that the disease is at first local, and the toxic symptoms result from the absorption of soluble poisonous products elaborated in the false membrane. The accessory micro-organisms no doubt play an important part in the development of the complications, notably broncho-pneumonia. The importance of continued bacterial study in relation to diphtheria is very great, and it is to be hoped that it will soon result in more effective and rational treatment. The author has had excellent results from the local treatment proposed by Gaucher. This consists in the forcible removal of the membrane and the application of active antiseptics. The antiseptic employed by the author is made after the following formula: ℞ Camphor, 20 parts; castor oil, 15 parts; alcohol, 10 parts; carbolic acid, 5 parts; tartaric acid, 1 part. This is to be thoroughly applied by means of cotton attached to a probe. The operation is a dangerous one unless the application of the antiseptic is very thorough. It is very painful, and for obvious reasons is not to be employed upon children.

Bromoform in Pertussis.—Löwenthal (*Berlin. klin. Wochensch.*, No. 23, 1890) reports one hundred cases treated by this drug. He believes it to have almost a specific action. Infants received from two to four drops, and children from four to eight years five drops, three or four times a day, according to the severity of the symptoms. The drug is a clear fluid, and should have no red color. It is best administered in water. Favorable effects were usually noticed on the second or third day. The whoop was shortened, the paroxysms became less severe and less frequent, expectoration was facilitated, and vomiting gradually disappeared. In a few cases drowsiness and languor were observed after each dose, but intoxication was seen in but one instance. It was readily overcome by stimulants. The child probably received more than the dose prescribed.

Errors in the Diagnosis of Infectious Diseases.—Dr. Russell, Medical Officer of Health for Glasgow, in the *Glasgow Medical Journal* for July, reports some interesting observations on 1,499 persons sent to the hospital as suffering from infectious disease. Of these, 114, or 7·6 per cent., did not suffer from the disease which they were supposed to have, and 85, or 5·7 per cent., had no infectious disease. In those diseases which are most serious to adult life the mistakes were numerous, while in those affecting infants and children the errors were few. In the case of typhoid fever and typhus fever the number of mistakes was excessive. In scarlet fever, measles, and whooping-cough they were few. Of those said to have diphtheria, nearly 24 per cent. had no diphtheria, and nearly half of these had no infectious disease.

The Action of Phosphorus in Rickets (Mandelstamm, *Jahrb. f. Kinderhk.*, xxx, 4, 1890).—The author has employed phosphorus in 216 cases of rickets. In 120 cases a complete cure was effected, and 43 patients were much improved. Intercurrent diseases prevented the continuance of the treatment for rickets in many of the remaining cases. The duration of treatment varied from one or two months to a year, according to the severity of the disease. The drug was administered in a simple emulsion, or with cod-liver oil. The following conclusions are drawn:

1. Phosphorus acts more efficiently, more quickly, and more surely than any other drug. 2. Administered in small doses, even for a long time, it is well tolerated and causes no unfavorable symptoms. 3. It acts favorably in relieving the nervous symptoms of the disease. 4. The rhachitic changes in the bones quickly cease to develop in the majority of cases.

Biborate of Sodium in Epilepsy.—Digond and Lailler (*Répert. de pharmacie*, August, 1890) have been pleased with the action of this drug. It seems to have some control in cases where the bromides have failed. Fifteen to thirty grains a day may be given at first, gradually increased to eighty grains. It may be given in two doses. The syrup of bitter-orange peel with glycerin is the best vehicle.

The Heredity of Hare-lip.—The possible heredity of hare-lip has long been known. Dr. Plicque (*Le Prog. médicale*, Oct. 25, 1890) reports a case with a remarkable family history both as to the number of cases and irregularity of distribution. The father and mother were free from malformations. In the father's family an uncle had an extra thumb. In the mother's family an uncle had hare-lip. These were the only cases of deformity in the generation preceding that of the patient. This uncle had ten undeformed children, but his sister, the mother of the patient, among nine children had five with hare-lip. Another sister, herself not deformed, had two children with hare-lip and cleft palate.

Hydronaphthol in the Treatment of Diarrhœa.—Clarke, in the *Practitioner* for July, describes experiments which show hydronaphthol to have a very distinct retarding influence on the digestion of egg-albumin, to have a very slight effect on the digestion of milk, and to have no effect on the pancreatic digestion of milk and albumin, nor on the conversion of starch into sugar. For children under one year old the dose is half a grain every hour or every two hours. The author believes it will prove a valuable remedy, but the evidence he cites is not convincing.

Sodium Salicylate in Chorea (Dresch, *Bull. gén. de thérap.*, No. 16, 1890).—The author believes that chorea is of microbic origin and that the choreic movements are reflex in character, due to the presence of the specific germs in the tissues. He gives salicylate of sodium for its action upon medulla and cord, and not as an antirheumatic or germicide. It should be administered in small and repeated doses.

Purpura in Children.—Dr. C. Koch (*Jahrb. f. Kinderhk.*, xxx, 4, 1890) reports the results of studies upon this subject. He makes three forms of the disease, based upon the degree of severity. In the first form the skin shows discolored spots which do not disappear upon pressure. In the second the patches are of darker color, are not elevated, and are of varying size. In severe cases the whole surface may be thickly covered by them. In the third form, besides numerous lesions of the second form, actual extravasation appears in the subcutaneous areolar tissue. Over these points the skin is loosened and the discoloration is of a bluish-red color. Fluctuation can often be obtained. In the first form the prognosis is good; the second is more serious. When the subcutaneous tissues are involved the prognosis is always grave. In this form hæmorrhages from the mucous surfaces are common and are often difficult to control. Intestinal hæmorrhages are uncommon in children. The diagnosis is usually easy. If there is any doubt it may be settled by pricking the skin with a pin. In a few hours a purpuric spot will appear at that point identical with those already present. Pressure will also produce a spot. In mild cases relapses are rare, in severe cases they are very common. As relapses were most common in children not confined to the bed, the author makes this a special point in the management of these cases. Medicinal treatment is unsatisfactory. Ergot and iron are probably of the most value. The author has frequently seen a recurrence of the disease follow a cold bath.

Poisoning by Male Fern (*Therap. Monatshefte*, August, 1890).—Two drachms of the ethereal extract were administered to a child five and a half years old. It was given in three portions within an hour and three quarters. Part of the worm was expelled, but vomiting soon occurred, followed by twitching, somnolence, and trismus. The child died five hours after the last dose. The post-mortem examination revealed evidence of tuberculosis of the lungs and various glands. The fatal result was probably due to decreased power of resistance, dependent upon the ill-health of the child.

Tetanoid Convulsions in an Infant.—Ronaldson (*Edinburgh Med. Jour.*, October, 1890) reports a case of convulsions in an infant nine days old. The child was perfectly well in every other respect, and was well nourished. Attention was at once directed to the umbilical cord, which had not yet fallen. It was dry and black and had a distinct putrefactive odor. There was no more than the usual ulceration at the line of demarkation between it and the umbilicus. It was removed and the stump thoroughly washed and disinfected, but the convulsions increased in severity. From being unilateral they soon became bilateral, and at times well-marked opisthotonos supervened. Various drugs were employed and vigorous antiseptic treatment was applied without avail. At length, after twelve days, the umbilicus was freely and deeply excised. Improvement was immediate and decided, and the convulsions at length ceased, to begin again after thirty-six hours. The sutures were then removed from the incision, for they seemed to be causing irritation. Improvement at once followed, and the convulsions gradually ceased. Two weeks later the convulsions returned, but were evidently controlled by the administration of sulphocarbolate of sodium. The author believes that the excision of the umbilicus determined the recovery.

In discussion, Dr. Brakenridge, who had seen the child, was inclined to think that the convulsions had been controlled by the antiseptics employed rather than by the operation. While there were symptoms of carbolic-acid poisoning, from absorption from the dressings, the convulsions subsided to return with the disappearance of the toxic symptoms. The sodium sulphocarbolate certainly seemed to check the fits, and their cessation and recurrence followed the giving and stopping of the drug several times.

Salol in Malarial Diarrhœa (Moncorvo, *Rev. mens. des malad. de l'enfance*, October, 1890).—The author, from his experience in Rio Janeiro, has come to believe thoroughly in the efficacy of salol in the diarrhœa of childhood which complicates malaria. The passages rapidly decrease in frequency, and the offensive odor disappears. It also seems to check intestinal fermentation with its accompanying colic and flatulence. He believes it to be a true intestinal antiseptic of especial value in entero-colitis of malarial origin. It is best administered suspended in mucilage. To an infant two or three grains may be given; between one and two years, four to seven grains; to a child over two years, from fifteen to twenty grains.

Cerebral Softening in a Syphilitic Child (Ashby, *Medical Chronicle*, March, 1890).—There is a natural tendency to refer symptoms arising in a syphilitic patient to syphilis, and it is especially difficult in children to always determine what symptoms are really due to that cause. The part which the poison of the disease plays in producing the brain lesions found during infancy is not readily defined. Chronic hydrocephalus is not uncommon in syphilitic children, but it is rarely influenced by specific treatment. Chronic meningitis has also been attributed to syphilis, and when it occurs in intra-uterine life there is reason to believe that it is specific in nature. Gummata are rarely found in the brains of infants. The brain lesions most certainly specific are those in which endarteritis occurs, accompanied by thrombosis of the smaller arteries, and a consequent softening of the brain substance. Such cases have been recorded by Barlow and Chiari. They are not common, and every case of the kind is worthy of record. In the case reported by the author the patient was first seen when three months old, and was then suffering from typical syphilitic symptoms. At eight months it began to suffer from convulsions. At first they were confined to the left side, but after a time became general. At eleven months the left side became rigid and the knee reflex was exaggerated. Later the right side also became rigid, the head was retracted, and the child semi-idiotic. It died at fourteen months, of exhaustion. During all this time it was under active specific treatment.

At the post-mortem examination an excess of fluid was found beneath the arachnoid and in the lateral ventricles, but there was no lymph or adhesions. Upon cutting into the gray matter it was found to be very soft. The parts nearest the surface had undergone most change. It was streaked with a white glistening substance which had undergone fatty degeneration. This was most marked over the right hemisphere. There was also a patch of reddish-brown softening in the right caudate nucleus.

Microscopical examination showed complete fatty degeneration of the gray matter, the caudate cells being discovered with difficulty. The walls of the minute arteries and capillaries were also fatty. The arteries of the pia and the medullary arteries contained thrombi forming a kind of core which had shrunk away from the walls of the vessels. The arteries showed in places evidences of periarteritis, the external coat being thickened, there being an excess of fibroid tissue and nuclei obliterating the perivascular lymph space. This was not confined to the region of any one artery, but was general over the surface of both hemispheres. The author is inclined to regard it as a chronic meningo-encephalitis resulting in softening of the cortex, and possibly, if the child had lived, going on to sclerosis.

Cold Baths in Measles (Dieulafoy, *Progrès méd.*, Oct. 4, 1890).—Two cases of measles with high temperature were treated with the cold bath with most satisfactory results. In each case there was suppression of the urine and marked embarrassment of the respiration. The eruption was abundant. The baths were repeated at intervals of four or five hours.

In discussion, Dr. Huchard said that he believed the condition of collapse described was cardiac, and had better have been treated by stimulants like caffeine and ether. Dr. Rendu uses cold baths in both measles and scarlet fever. Dr. Sévestre regards tepid baths as preferable.

Hepatic Abscess in an Infant (Pereira, *Ind. Med. Gaz.*, June, 1890).—The child was twenty months old and had suffered from dysentery for a month. She was emaciated and had a waxy complexion. A fluctuating mass could be felt in the region of the liver. It was tapped at the tenth intercostal space and twelve ounces of bloody pus were withdrawn. A week later there was a spontaneous opening with free discharge. After three weeks the cavity was syringed with a solution of boric acid, when the discharge gradually ceased and a complete cure resulted.

The Relations of the Pelvic Viscera in the Infant.—Dr. Ballantyne, in the *Edinburgh Med. Jour.* for October, has an exhaustive paper upon this subject. The conclusions are founded upon the examination, by the frozen sectional method, of eight infants. The numerous excellent drawings accompanying the paper are of interest and add greatly to the understanding of the text. The sacrum is shown to be almost straight, the rami of the pubic bones are stumpy, and the symphysis is, therefore, short. The pelvis, as a whole, differs markedly from that of the adult, being somewhat funnel-shaped and the pelvic brim being very oblique to the horizon. The various measurements of the pelvic diameters are given in great detail. The bladder is almost entirely an abdominal organ at birth. Its normal form when partially distended is ovoid, the most important fact being that the broad end is directed downward. The reflection of the peritonæum from the anterior abdominal wall usually takes place a little below the level of the umbilicus. The anterior surface of the bladder is therefore entirely uncovered by peritonæum, a fact in certain cases of the utmost importance. Posteriorly, the peritonæum passes over the bladder wall, reaching in the male infant to a point immediately below the vesical orifice, and here coming into relation with the small prostate gland, another fact of great importance surgically. In the female infant the peritonæum does not descend so low, for its point of reflection on to the anterior uterine wall lies above the level of the internal urethral orifice. The size of the bladder is relatively small. It rarely contains more than a drachm and a half of urine at the time of birth. The ureters lie immediately internal to the external and internal iliac vessels and dip down under the broad ligaments, and rise slightly to open into the bladder at the plane of the brim. The rectum is comparatively large and straight and is placed in a vertical position, which may favor prolapsus recti, a common malady in the infant. The anus is situated relatively posterior to the position it occupies in the adult. A loop of the sigmoid flexure is sometimes found in the pelvis, but it lies chiefly in the abdomen. The author found it, as other observers have, very long and frequently bent upon itself. The uterus lies partially in the abdominal cavity. The author believes that the vertical position or the position of anteversion represents its normal line in the new-born infant. The position of the ovaries is variable.

Chorea, Rheumatism, and Heart Disease (Meyer, *Berlin klin. Wochensch.*, No. 28, 1890).—This paper is one of considerable interest, and is based upon observations made at Henoch's department at the Berlin Charité. There are of necessity certain sources of error in such figures. Rheumatic attacks in children are often so vague that even with the most careful inquiry they are frequently overlooked. During the five years in which these observations were made there were 18,074 children treated, of whom 121, or 6 per cent., suffered from chorea. Of these, 46 were boys and 75 girls. The youngest case was three years and a quarter old. The age in the majority of the cases was between the second dentition and puberty. There was a recurrence in 11 cases. Of all these cases, but 11, or 9 per cent., gave a history of rheumatism. In 3 cases both rheumatism and heart disease were present. In 13 heart disease alone was present. The author, therefore, believes that chorea is a symptom which may result from numerous causes.

Antipyrine in Certain Diseases of Children (Bouisson, *Lyon médical*, Feb. 9, 1890).—This drug has been extensively used by the author at the Lyons hospital. In whooping cough its action was very contradictory. In nineteen cases of chorea a complete cure was effected in eleven, and marked improvement was noted in the remainder. As this is usually a self-limiting disease, the number of patients recovering proves little regarding the value of a drug. In nocturnal enuresis the results were extremely satisfactory.

A Case of Omental Cyst.—Sir Spencer Wells, in the *British Medical Journal* of June 14, 1890, reports a case of omental cyst in a girl of four years. The abdomen had been increasing in size for a year before her first visit. Five months before she had been ill with some abdominal disorder, the exact nature of which was uncertain. She was a delicate child, but not really sick. Upon examination, an area of dullness and fluctuation could be detected, which occupied the lower part of the abdomen. Upon standing, the lower part of the abdomen was greatly distended. It was thought that the growth consisted of a thin liquid in a thin-walled sack, and was probably ovarian. Three pints of clear watery fluid were drawn off by aspiration, much to the relief of the child. This was in June. In September the swelling was somewhat larger. In the following June the abdomen had become so distended that laparotomy was decided upon. No free peritoneal fluid was found, but a very thin, cyst-like expansion of the omentum which was adherent to the abdominal wall in the right iliac fossa. The fluid was clear and watery and over four pints were removed. The cyst was freed from its attachments and removed. No unfavorable symptoms followed and the child made a perfect recovery. A year later the child was well and healthy, and there was no return whatever of the growth.

Intussusception treated by Injection of Air.—Drake (*Brit. Med. Jour.*, July 6, 1890) reports a successful case. The patient was seven months old. She was seized with vomiting and violent pain and soon passed into a state of collapse. The vomiting continued and blood and mucus passed from the rectum. A sausage-like tumor could be felt in the right hypochondriac region. Air was injected into the bowel with a small bellows, when the tumor suddenly disappeared and all the symptoms subsided.

Pernicious Anæmia in Childhood.—A paper on this subject was presented to the International Medical Congress by Dr. D'Espine and Dr. Picot, and was published in the issue of the *Revue de médécine* for October 10, 1890. Two cases are reported in full, with brief notice of four others. These are the only ones to be found recorded in the literature of the subject. The course of the disease is brief, being not over a month. One patient was two years of age, the other thirteen. Both were healthy when the anæmia appeared. No cause could be discovered. The possibility of tape-worm was recognized, but the administration of male fern failed to show any evidence of such a cause. In the younger child there was at first some evidence of gastric disorder, but no diarrhœa. In the other there were frequent attacks of colic and diarrhœa and occasionally vomiting. In both children there were loss of appetite and excessive thirst, and purpuric spots were present. The gums were healthy, epistaxis was not infrequent, and late in the disease was profuse. The blood was pale and had lost its power of coagulation. Œdema of the lower extremities was present. An anæmic murmur could be heard in the younger. Dyspnœa was present and was one of the most prominent symptoms. In the younger there was at times a slight fever of the remittent type. In the other there was no fever.

An autopsy was obtained in the case of the older patient. The liver was large and of a pale-yellow color and very firm. The spleen was soft and of twice the normal size. The stomach was normal. The intestine was normal to within five inches of the ileo-cæcal valve. Below that point the intestinal wall was thickened, but there was no ulceration and no change in Peyer's patches. The cæcum and appendix vermiformis were also thickened. Microscopical examination showed all the coats of the intestine infiltrated with leucocytes, but, as they were not contained in a reticulum, it was evident that the disease was not lymphadenoma. The thymus gland, notwithstanding the age of the child, was large and lobulated. Treatment with iron, arsenic, and quinine was without appreciable effect. As to causation, the authors attribute the disease to self-intoxication of intestinal origin.

The Ætiology of Rickets.—Dr. Palm, in a study of the geographical distribution of rickets, is led to certain opinions regarding ætiology quite at variance with those held by most observers. His observations and researches are extensive, and are reported in the *Practitioner*. They refute the view that there is any connection between rickets and syphilis. Syphilis probably abounds more in Japan than in any other country, yet rickets is extremely rare. In Morocco syphilis abounds, and rickets is absent. Countries like India, which are grossly negligent of hygienic precautions, though paying the penalty in other ways, are not scourged by rickets. The working classes of Britain are better fed than the teeming populations of China and India, who are strangers to rickets. A general survey would seem to show that food plays a minor part in the causation of the disease.

With regard to water supply, the geographical distribution of the disease does not show any relation to the presence or absence of lime salts in the water. Another point of interest is the fact that a dry atmosphere is characteristic of non-rhachitic areas, and that a wet soil and humid atmosphere are favorable to the prevalence of rickets. The facts that the poorer classes suffer more than the rich, children in the towns more than those in the country, and those in large manufacturing towns more than in small towns, point to climatic conditions which are intensified by poverty and residence in large manufacturing cities. The most salient facts with regard to the climate of places enjoying immunity from the disease are abundant sunshine and a clear sky. In manufacturing cities, under their pall of smoke, with their high houses and narrow streets, where the homes and play-grounds of the children are excluded from the light, we find the victims of rickets in greatest numbers. The author fully believes that the lack of sunlight is the most potent factor in the production of the disease.

Antisepsis in Scarlatina.—The treatment adopted in the scarlatina ward at the Hôpital des enfants is described by Hutinel in the *Jour. de méd. et de chir. prat.* The author believes that the micro-organisms which cause the disease enter the system through the tonsils and nasopharynx. The disinfection of these parts is therefore the chief object in treatment. The mouth and pharynx are irrigated three or four times daily with a solution of boric acid or naphthol. The tonsils are brushed with a boric-acid solution. The children are kept in bed for four weeks and are guarded carefully against cold. An exclusive milk diet is enforced. Under this treatment nephritis of a serious nature does not occur.

The Therapeutic Effect of Stomach Washing in Children.—Dr. Booker, in a recent number of the *Johns Hopkins Hospital Bulletin*, reports the results obtained by stomach washing in about two hundred cases. It proved a quick and effectual means for the relief of vomiting. As a rule, that symptom was checked by the first washing. Vomiting accompanying serous diarrhœa was affected less than in other conditions. In summer diarrhœa, even without vomiting, milk curds collect, and the stomach is rarely found empty. Removal by washing prevents their passage into the bowel as a source of irritation, and usually relieves the restlessness so often dependent upon the presence of curds in the stomach. In many instances stomach washing alone afforded complete relief, no other treatment being employed. In other cases it was disappointing. Improvement often followed the first washing, after which no further benefit was obtained. It proved of great benefit in certain cases of constipation dependent upon a catarrhal condition of the gastro-intestinal tract.

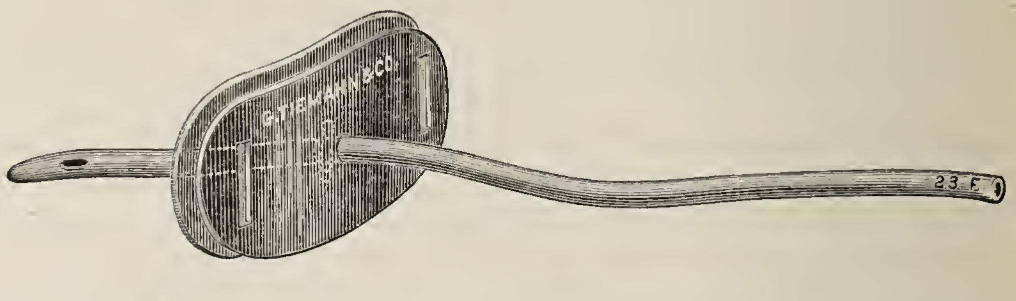
The operation is contra-indicated in children affected with cardiac disease, serious bronchitis, or pulmonary disease. If the tube continues to excite vomiting or strong resistance, the advantage of its use is doubtful.

New Inventions, etc.

A SIMPLE APPARATUS FOR PERMANENT SUPRAPUBIC DRAINAGE.

By L. Bolton Bangs, M. D.,
SURGEON TO ST LUKE'S HOSPITAL AND TO THE CHARITY HOSPITAL, AND PROFESSOR OF GENITO-URINARY DISEASES IN THE NEW YORK POST-GRADUATE MEDICAL SCHOOL.

This consists of a thin plate of hard rubber, four inches in length by two inches and a half in width, slightly concave in order to fit closely the anterior wall of the abdomen, and is perforated by a central opening and by narrow slits at either end for the reception of a bandage. Through the central opening a catheter or drainage-tube is passed, and enters the bladder to any distance suited to the comfort and convenience of the patient. The catheter is retained by means of a small safety-pin on the proximal side of the rubber plate. Next to the abdomen is a simple sheet of undyed gray felt cut to correspond to the shape of the hard-rubber plate and with a corresponding opening. This is in immediate contact with the skin of the abdomen, and is retained by the same bandage which passes through the slits in the rubber plate. It will thus be seen that the safety-pin is between the rubber and felt, and does not come in contact with the patient at all, but renders the drainage-tube immovable while the apparatus is being worn. The tube can be adjusted to any depth at the will of the patient, and can easily be removed when worn out, to be replaced by a new one. This soft pad of piano-felt serves more than one purpose. It is agreeable to the patient, absorbs the secretions of the skin, and can easily be changed when soiled. If the mouth of the sinus leading to the bladder requires a surgical dressing, this can be retained beneath the layer of felt or removed at will.



The hard-rubber plate may be made to conform to the abdominal contour of any patient by simply heating it in the flame of an alcohol lamp, or, if it presses upon the pubic bone, it can be trimmed off below with a penknife. The plate will last indefinitely, and the catheter and drainage-tube can be changed when necessary.

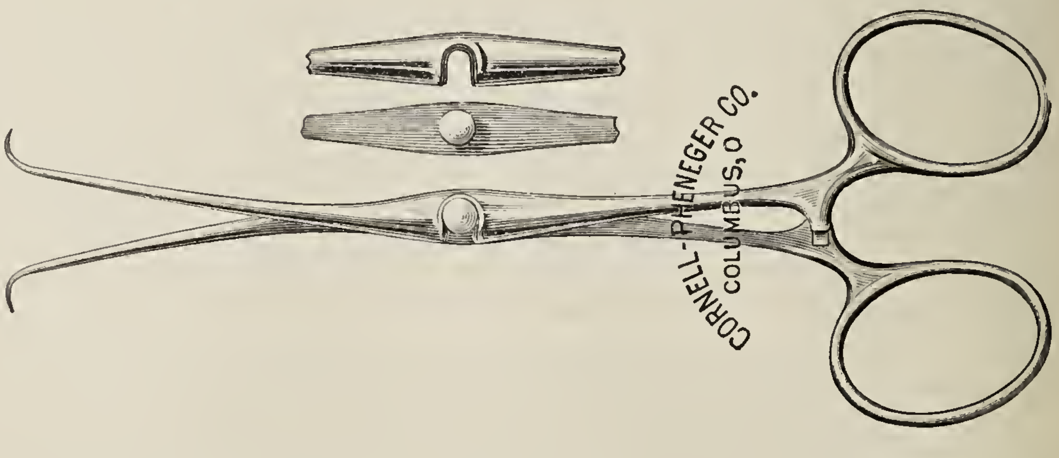
The plate and catheters are made by Messrs. Stohlmann, Pfarre, & Co., 107 East Twenty-eighth Street.

THE DIVERGING LOCK TENACULUM.

By D. Tod Gilliam, M. D.,
COLUMBUS, OHIO.

I desire to call attention to an instrument for facilitating abdominal section and which I have called "the diverging lock tenaculum." The instrument is four inches and a half long and resembles the ordinary compression forceps with the exception that the lock is after the fashion of the button lock of obstetric forceps and the distal extremity tenacular with the points looking outward.

Owing to a curve in the blades, these points are separated to the extent of half an inch when the handles are brought together. They are used in this manner: After the usual incision through the skin and superficial fat, a blade is taken in each hand and the tenacula are sunk into the fibrous tissue opposite each other and about a third of an inch apart at the upper part of the wound. They are now locked and snapped, and immediately seized by the left hand and the parts lifted away from the abdominal contents. The knife is now carried by one stroke to the peritonæum. When inserting a finger, the fascia is divided the length of the superficial incision by scissors. When adhe



sions exist between the tumor and abdominal parietes the condition can generally be recognized by the sense of resistance to the tenaculum hand and by other obvious physical signs. In cases of doubt it, of course, behooves one to proceed cautiously, and yet a greater security is felt and assured by reason of the *point d'appui* afforded by the tenaculum.

Miscellany.

The Display of Titles after Authors' Names.—Under the heading of Invidious Distinctions, the *Toledo Medical and Surgical Reporter* says:

"At a meeting of the Toledo Medical Association, January 23, 1891, the following resolution was introduced and referred to the Executive Committee:

"'*Whereas*, It has become customary for physicians to place after their names not only their professional titles, but also the names of medical societies to which they have belonged, and the names of those societies of which they are members; the official positions in these societies that they have occupied, or which they at present hold; the political offices that they fill, or to which they have been elected; the business positions which they have secured; the names of hospitals that they visit; the names of medical colleges in which they are professors, lecturers, or assistants, and many other such titles; and

"'*Whereas*, Such an array of titles in no degree adds to the value of the paper at the head of which they are placed; and

"'*Whereas*, Such practice savors of unprofessional advertising, and in that degree is undignified:

"'*Resolved*, That we regard the mention of these titles, except that of M. D., as unnecessary, and liable to suggest invidious distinctions, and therefore we advise their discontinuance for the future.'"

The *Reporter* also prints the following, which, it says, was written by an ardent advocate of the resolutions:

"Of one hundred physicians who make the display at the headings of their articles, forty-six are connected with clinics, dispensaries, or hospitals; forty-two are either professors, lecturers, or assistants in colleges; eight are members or ex-members of societies; and four are in the employ of corporations. Seventeen of the forty-two professors also say that they are connected with clinics. These one hundred articles are taken at random from medical journals, and so doubtless very closely represent the proportions of the classes of physicians who do this kind of advertising.

"It is a practice that belongs almost exclusively to those connected with clinics and colleges. When and where it originated, and who made it legitimate, probably no one knows. It seems to be like other extravagances, in that its use by one physician necessitates some such thing by other physicians. For instance, one medical college can not provide professorships for all who wish to avail themselves of this licensed system of advertising, so others organize a medical college for themselves. A mere desire to create himself a 'professor' is probably never the only motive that prompts a man to secure a medical college charter, but physicians are very human, and self-preservation, and a family to feed and clothe, urges him to try to turn part of the tide toward himself, which he now sees flowing toward his competitors.

"Attracting public attention is advertising, and advertising pays, and advertising with printer's ink has fascinations for some medical men. The physician who is not a 'professor' may seek to even himself up before the public with the man in the college faculty by having himself attached to a clinic or dispensary, or to some other charity. And thus in the mad rush for notoriety any position that promises as pay, either a pass or a password, is only too gladly accepted. Then comes the long list of those who, in the nature of things, can have only such titles as 'president,' 'vice-president,' 'secretary,' 'honorary member,' or only just a common 'member.' Possibly the practice did not originate with 'professors,' but it is noticeable that if a physician uses a title, and is a professor in a medical college, he always places 'Prof.' at the head of his collection.

"The abandonment of the practice by these physicians would be the death of a growing evil. They owe such a course to the profession, because the profession makes their colleges what they are. From the profession comes the practice that builds up the clinic and dispensary, and which is used to boom those connected with such institutions. Physicians connected with medical colleges are among those who are entitled to the greatest respect, and they have that respect, and for the above reasons they should be the last to be suspicioned of 'whipping the devil around the stump.'

"It is a waste of time and of words to consider the practice as being anything else than an advertising scheme, and there is no dodging the fact that clinics and dispensaries are injuring the profession more than open quackery. Many a physician in competition with this so-called legitimate advertising is driven into open, candid quackery. Reports of single cases in journals are made by 'professors' and 'consulting surgeons,' as though it required a great professor, or a great surgeon, or a great anybody, to report a case. If advertising rates were charged, and the advertisements were paid for, the practice would be more honorable, in that the advertising would be openly known as such.

"Stop this free advertising, and the wings of the clinic and dispensary will be clipped, the inducement for starting new ones will be done away with, and we shall soon have fewer of them. 'Invidious distinction' is the object of the practice, or else the practice is undignified and silly."

The following are the *Reporter's* comments:

"The introduction of a resolution into the Toledo Medical Association that if adopted would place the brand of the deep and dark disfavor of the association on the use of any titles in connection with printed articles from the pen of members, save the simple M. D., it seems has behind it a well-defined motive and thoroughly digested purpose; but there is large room for diversity of opinion, and we fail to concur in the views expressed in the preceding article.

"In the first place, it is not always wise to cut and slash away at old usages, and that of appending legitimate titles began when we know not, but is sufficiently ancient to be really venerable. It is true now, and has always been, that all men really capable have not occupied positions that afforded them the right to append titles to their names, but it is true now, as it has always been, that the large majority of those who can legitimately do so, have won it at least by some degree of merit and by some form of effort, both the merit and the effort being commendable. Those who read standard works and journals, both old and new, like to know something of the standing of the author; something of the right he has to especial study, and his statements to consideration. Astley Cooper was and is to the reader a very different character from Sir Astley Cooper; and S. D. Gross has far less significance than S. D. Gross, M. D., Professor of Surgery, Jefferson Medical College, Philadelphia, Pa. These designations at least show to us the lines in which the writer has been working, and how far he has ascended in the scale we must then determine by his work as shown in his pages.

"It is vain to hold that in a field so vast any man can master all, and be at each point equally capable. If two men ride the same horse, one must sit before—the one behind, thankful that he has a place to ride at all, should not be jealous, but bide his time, and, redoubling his efforts, attain the first place in the next race. We know that it is true that sometimes we have titled men who do not carry with them much wisdom; but that is one of the defects with which we must bear in this world, in which perfection is so difficult of attainment.

"No man can long hold rank that has not worked to fit himself for it, and work he still must to hold it permanently, and it is work, and work only, that enables us to advance. Favorable circumstance may give a medical man position, but in due time he will be likely to find his place as water finds its level. Locally we may see medical men loading down their names with an excess of titles, but there are spots on the sun. We know the men, and titles without practical merit count for but little.

"Some of our society brethren make little or no use of titles fairly won in the strife, and that by merit and effort only. If one of us has fairly won them and is deserving, let us be proud of him. Toledo will never be a medical center and attract patients from abroad, as do other cities, until certain men become distinguished, and their merits known abroad. When it becomes a Mecca to which the afflicted come to be cured, all will share in the advantages. Let us not put an extinguisher on aspiration by blotting out the badge that as a scale indicates at least *some* degree of merit."

Mortality in Cities in the United States.—The following table represents the mortality in the cities named, as reported to Dr. John B. Hamilton, Surgeon-General of the Marine-Hospital Service, and published in the Abstract of Sanitary Reports for March 6th:

CITIES.	Week ending—	Estimated population.	Total deaths from all causes.	DEATHS FROM— Phthisis pulmonalis.	Yellow fever.	Small-pox.	Varioloid.	Varicella.	Typhus fever.	Enteric fever.	Scarlet fever.	Diphtheria.	Measles.	Whooping-cough.
New York, N. Y.	Feb. 28.	1,664,148	797	....	..	..	..	..	..	2	33	40	10	7
Chicago, Ill.	Feb. 28.	1,200,000	500	....	..	..	..		..	19	14	19	8	6
Philadelphia, Pa.	Feb. 21.	1,069,264	403	55	..	..		..	..	10	8	11	1	....
Brooklyn, N. Y.	Feb. 22.	853,945	380	....	..	..	..	..	..	3	14	24	11	4
Brooklyn, N. Y.	Feb. 28.	853,945	365	35	..	..	..	.		1	8	18	6	4
St. Louis, Mo.	Feb. 21.	460,000	....	....	..	..	..	..	..	5	1	6	..	4
St. Louis, Mo.	Feb. 28.	460,000	.	....	..	..	..	..	..	1	1	3	..	....
Boston, Mass.	Feb. 28.	448,477	189	....	..	..	..	..	.	1	2	5	1	....
Cincinnati, Ohio	Feb. 27.	325,000	137	15	..	..	..		..	4	5		..	....
San Francisco, Cal.	Feb. 21.	300,000	164	25	..	..	..	..	..	2	..	9	..	....
Detroit, Mich.	Feb. 21.	250,000	74	....	..	..	..	..	..	..	..	5	..	....
Washington, D. C.	Feb. 21.	250,000	129	....	..	..	..	..	..	2	..	3	9	...
Milwaukee, Wis.	Feb. 21.	220,000	76	....	..	.	..	..	..	..	..	12	2	....
Milwaukee, Wis.	Feb. 28.	220,000	81	....	..	..	..	..	..	2	1	9	1	....
Newark, N. J.	Feb. 28.	194,669	93	12	..	..	.	..	..	..	..	2	..	....
Kansas City, Mo.	Feb. 28.	180,000	26	....	..	..	..	..	..	..	1	1	..	....
Minneapolis, Minn.	Feb. 28.	164,738	44	....	..	..	..	..	..	1		2	..	....
Rochester, N. Y.	Feb. 28.	138,000	49	...	..	..	.	..	..	..	..	..	..	1
Providence, R. I.	Feb. 28.	135,000	57	....	..	..	..	..	..	..	..	1	..	2
Richmond, Va.	Feb. 28.	85,000	29	7	..	..	..	..	..	1	..	..	.	....
Toledo, Ohio	Feb. 27.	82,652	36	...	..	..	..	..	..	1	..	2	1	....
Nashville, Tenn.	Feb. 28.	76,369	38	....	.	..	..	..	..	2	.	..	2	1
Fall River, Mass.	Feb. 28.	75,000	21	...	..	..	..	..	..	..	..	..	..	....
Charleston, S. C.	Feb. 21.	65,165	45	4	..	..	..	..	..	..	..	..	..	....
Charleston, S. C.	Feb. 28.	65,165	29	3	..	..	..	..	..	..	..	..	..	....
Galveston, Texas	Feb. 13.	40,000	24	1	..	..	..	.	..	1	..	2	.	....
Galveston, Texas	Feb. 20.	40,000	17	1	..	..	..	..	..	..	..	1	..	....
Portland, Me.	Feb. 28.	40,000	13	...	..	..	..	..	..	..	..	..	..	....
Altoona, Pa.	Jan. 17.	35,000	9	....	..	..	..	..	..	..	..	..	..	....
Altoona, Pa.	Jan. 24.	35,000	14	....	..	..	..	..	..	..	..	..	..	....
Altoona, Pa.	Jan. 31.	35,000	17	....	..	..	..	..	..	..	..	..	..	....
Binghamton, N. Y.	Feb. 28.	35,000	12	1	..	..	..	..	..	1	..	1	..	.....
Yonkers, N. Y.	Feb. 21.	32,500	10	...	..	..	..	..	..	..	1	..	..	....
Yonkers, N. Y.	Feb. 28.	32,500	19	....	..	..	..	..	..	..	..	..	..	....
Newton, Mass.	Feb. 14.	24,375	5	1	..	..	..	..	..	1	..	..	..	....
Newton, Mass.	Feb. 21.	24,375	4	....	..	..	..	..	..	..	..	..	..	....
Newport, R. I.	Feb. 5.	20,000	7	....	..	..	..	..	..	..	..	..	..	....
Newport, R. I.	Feb. 12.	20,000	2	....	..	..	..	..	..	..	..	..	..	....
Newport, R. I.	Feb. 19.	20,000	12	1	..	..	..	..	..	..	..	..	..	....
Newport, R. I.	Feb. 26.	20,000	10	1	..	..	..	..	..	..	..	..	..	....
Rock Island, Ill.	Feb. 15.	17,000	2	....	..	..	..	..	..	..	..	..	..	....
Rock Island, Ill.	Feb. 22.	17,000	1	....	..	..	..	..	..	..	..	..	..	....
Pensacola, Fla.	Feb. 21.	15,000	3	....	..	..	..	..	..	..	..	..	..	....
Pensacola, Fla.	Feb. 28.	15,000	4	1	..	..	..	..	..	..	..	..	..	....

The Congress of American Physicians and Surgeons will hold its second triennial meeting in Washington, D. C., on September 22, 23, 24, and 25, 1891, under the presidency of Dr. S. Weir Mitchell, of Philadelphia. The vice-presidents, ex officio, are: The president of the American Surgical Association, Dr. Claudius H. Mastin, of Mobile, Ala.; the president of the American Ophthalmological Society, Dr. Hasket Derby, of Boston; the president of the American Otological Society, Dr. Gorham Bacon, of New York; the president of the American Neurological Association, Dr. Wharton Sinkler, of Philadelphia; the president of the American Gynæcological Society, Dr. A. Reeves Jackson, of Chicago; the president of the American Dermatological Association, Dr. Francis B. Greenough, of Boston; the president of the American Laryngological Association, Dr. William C. Glasgow, of St. Louis; the president of the American Climatological Association, Dr. Frederick I. Knight, of Boston; the president of the Association of American Physicians, Dr. William Pepper, of Philadelphia; the president of the American Association of Andrology and Syphilology, Dr. Fessenden N. Otis, of New York; the president of the American Orthopædic Association, Dr. Newton M. Shaffer, of New York; and the president of the American Physiological Society, Dr. Henry P. Bowditch, of Boston. The chairman of the Executive Committee is Dr. William Pepper, of Philadelphia. The treasurer is Dr. John S. Billings, of the army. The secretary is Dr. William H. Carmalt, of New Haven. The subjects for report and discussion mentioned in the preliminary programme are as follows:

Tuesday afternoon, September 22d, at three o'clock.—Conditions underlying the Infection of Wounds, including a discussion of Disinfection with Reference to the Treatment of Wounds, of the Relation of Bacteria to Suppuration, of the Resistance of Tissues to the Multiplication of Bacteria, and of the Effects of Antiseptic Agents on Wounds. Referee, Dr. William H. Welch, of Baltimore; co-referee, Dr. Roswell Park, of Buffalo. The discussion will be adjourned if necessary until Friday afternoon.

Wednesday afternoon, September 23d, at three o'clock.—The Late Manifestations of Syphilis. Referee, Dr. Phineas S. Conner, of Cincinnati; co-referee, Dr. Abner Post, of Boston.

Wednesday evening, at eight o'clock.—The president's address, to be followed by a reception.

Thursday afternoon, September 24th, at three o'clock.—Fibroid Processes (Chronic Interstitial Inflammation, Scleroses); their Pathology and Ætiology, with Special Reference to the Influence of Diathesis and Heredity. Referee, Dr. Alfred L. Loomis, of New York; co-referee, Dr. William Osler, of Baltimore.

Friday afternoon, September 25th, at three o'clock.—If necessary, the discussion on The Conditions underlying the Infection of Wounds, etc., will be resumed.

To Contributors and Correspondents.—*The attention of all who purpose favoring us with communications is respectfully called to the following:*

Authors of articles intended for publication under the head of "original contributions" are respectfully informed that, in accepting such articles, we always do so with the understanding that the following conditions are to be observed: (1) when a manuscript is sent to this journal, a similar manuscript or any abstract thereof must not be or have been sent to any other periodical, unless we are specially notified of the fact at the time the article is sent to us; (2) accepted articles are subject to the customary rules of editorial revision, and will be published as promptly as our other engagements will admit of—we can not engage to publish an article in any specified issue; (3) any conditions which an author wishes complied with must be distinctly stated in a communication accompanying the manuscript, and no new conditions can be considered after the manuscript has been put into the type-setters' hands. We are often constrained to decline articles which, although they may be creditable to their authors, are not suitable for publication in this journal, either because they are too long, or are loaded with tabular matter or prolix histories of cases, or deal with subjects of little interest to the medical profession at large. We can not enter into any correspondence concerning our reasons for declining an article.

All letters, whether intended for publication or not, must contain the writer's name and address, not necessarily for publication. No attention will be paid to anonymous communications. Hereafter, correspondents asking for information that we are capable of giving, and that can properly be given in this journal, will be answered by number, a private communication being previously sent to each correspondent informing him under what number the answer to his note is to be looked for. All communications not intended for publication under the author's name are treated as strictly confidential. We can not give advice to laymen as to particular cases or recommend individual practitioners.

Secretaries of medical societies will confer a favor by keeping us informed of the dates of their societies' regular meetings. Brief notifications of matters that are expected to come up at particular meetings will be inserted when they are received in time.

Newspapers and other publications containing matter which the person sending them desires to bring to our notice should be marked. Members of the profession who send us information of matters of interest to our readers will be considered as doing them and us a favor, and, if the space at our command admits of it, we shall take pleasure in inserting the substance of such communications.

All communications intended for the editor should be addressed to him in care of the publishers.

All communications relating to the business of the journal should be addressed to the publishers.

Lectures and Addresses.

HOW SHOULD GIRLS BE EDUCATED?

A PUBLIC-HEALTH PROBLEM
FOR MOTHERS, EDUCATORS, AND PHYSICIANS.

The President's Anniversary Address, delivered at the Eighty-fifth Annual Meeting of the Medical Society of the State of New York, in the Assembly Chamber at Albany, Wednesday, February 4, 1891.

By WILLIAM WARREN POTTER, M. D.,
BUFFALO, N. Y.

In the preparation of a dissertation for this occasion, as required by the by-laws, not the least difficult part of the labor was found to be the selection of the subject. In this, I presume, my experience has not been different from that of the average of mankind, who were similarly conditioned as to a duty to be performed, with a consciousness of unfitness for the task.

Recognizing the fact, however, that these anniversary occasions usually bring together audiences not entirely composed of physicians, it is presumed that a discourse upon some subject not technically medical in its character would be more likely than a strictly professional theme to command attention. I crave your indulgence in an attempt to discuss one that at least has the merit of importance, whatever it may lack in the methods of its presentation.

All problems relating to the prevention of disease are now being recognized, even among the non-medical portion of the community, as of greater importance than those relating to cure. The elimination of any factors from our social and educational status that tend to produce or increase those diseases to which women are peculiarly liable has always an abiding interest for physicians; hence any methods that may be proposed for the accomplishment of this end must ever afford absorbing topics for discussion, whenever they are assembled for the purpose of considering questions which refer to the welfare of the community, having regard for the health, longevity, and the preservation of the physical and mental vigor of its citizens. But, if we expect to succeed in improving the educational and social environment of girls, to the end that we may render them mentally and physically stronger, we must obtain the coöperation of educators, public-spirited citizens, and especially the mothers of the land.

To all these, then, I appeal, with whatever cogency there is in speech, to unite with us in might and main, with purse and influence, with precept and example, in a determined effort to establish society and education upon a healthier basis. It is only by agitation and frequent discussion of the subject that a healthy public sentiment can be created in regard to the errors in the present educational system that may ultimately lead to their correction; and I hope, therefore, that I may be able to convince at least some of my auditors that it is their duty on all suitable occasions, either in public assemblage or in private conversation, to lift up their voices and to speak with no uncertain sound, to the end that the girls and young women of our land may be released from a system that is pernicious in the extreme in its effects upon their future health and happiness.

It must not be forgotten that we are living in an age of advancing intelligence, in which the size of the brain, even in the fœtus, has increased, while, on the other hand, the muscular system of woman, and consequently her reproductive organs, have become weaker than formerly. To begin with, then, if we would have a healthy race we must have healthy mothers, and if we would have healthy mothers we must seek to lay the foundation for their healthfulness during the period of growth and development—that is, during their first twenty years of life.

A large portion of this time is allotted to what we term the education of our girls, or their intellectual development A girl is sent to school at five or six, and there remains, during nine months of the year, until she reaches the age of seventeen or eighteen years. But the portion from ten to sixteen is the special point of time to which I would direct attention, as being the years during which much harm is done to the average American girl by the faulty methods in vogue. By the time she arrives at the age of ten her mental capacity has reached a point where she begins to receive impressions of a lasting character, and where her ambition is such as to lead her beyond her powers of endurance, if not directed by a careful judgment. Up to this time she has traveled the same pathway as the boy of her age, but now, speaking with reference to her school training, these lines must begin to diverge a little.

The thoughtful mother will recognize that her little daughter will soon reach the age of sexual development, in which the periodicity of her being will assert itself in the physiological phenomenon of menstruation; hence she will prepare the way for this change by fortifying all the avenues that tend to promote a good physique. She will attend to nutrition, to physical and mental rest at appropriate intervals, to personal hygiene, and to restraining the emotions; in short, to everything that will store up nerve force and conserve physical strength. Did I say the thoughtful mother will do all this? How many mothers begin thus early to supervise the methods and habits of life of their daughters, with a view of preparing them to undergo properly the great transmutation that awaits them at puberty?

The years between ten and fourteen are full of import to a girl; during them she lays the foundation for future weal or woe, and I hesitate not to declare that this is a period of infinite responsibility for mothers—perhaps the greatest of any part of the educational life of their girls. And be it understood that I habitually refer to education in its broadest sense, and not to mere scholastic acquirements. Many girls begin their new physiological life at the age of twelve; but if they should not do so quite as early, this is still a period when Nature is making preparations for a new existence for the young female, and if her plans are interfered with or thwarted, even in their smallest details, years—long sorrowing years, perhaps—of pain and suffering and woe are sacrificed to the shrine of ignorance or willful neglect. This should be a period of stern tutelage for the young maiden—not in the sense of harshness, but in the fullness of kind-heartedness. Her food should be wholesome and partaken of with regularity, and she should be particularly trained to the habit of eating a hearty breakfast; she should have fresh air, and plenty of it; her hours for sleep should be regular and prolonged; her dress should be plain and strong, that she may not fear to be caught in a shower or climb a fence, lest it should be soiled or crumpled; and particular attention should be paid to her shoes, the soles of which should be broad enough to rest the entire width of the foot upon, sufficiently thick to furnish good support and not wet easily, the uppers soft and pliant but not too thin, and the heels neither high nor low, but of medium height, width, and thickness. I lay great stress upon the construction of the shoe. It should not be coarse and heavy, as then it will be a constant source of mental irritation to the wearer; for girls, even at this age, are beginning to take pride in a comely foot, and it is a pride to be fostered with a kindly care. The foot, with a little forethought, can be properly attired and at the same time be both healthfully and neatly dressed. I take this opportunity to say a word in condemnation of that modern abomination to womanly grace and comfort, the French heel. These heels displace the supporting base of the body by forcing upward the keystone of the arch on which it rests, thereby weakening the whole superstructure. Their injurious effects are by no means confined to the feet, but their baneful influence pervades the whole economy. Time will not permit me to elaborate the subject now, but I may refer to a paper published a few years ago by Dr. Samuel C. Busey, of Washington, in which he says: "The vascular, postural, and nutritive disturbances growing out of the deflection of the skeleton, which I have attempted to show may find their starting point in too great elevation of the heel, are not necessarily confined to the bladder, uterus, and rectum. All the tissues and organs, the vagina, ovaries, Falloppian tubes, ligaments, and fasciæ, may become involved. Hyperæmic conditions, contortions, and displacements, either singly or collectively, may follow in an extended sequence of local and general disorder; but menstrual disturbances and vaginal discharges are probably more common."

At the period under consideration regular sleep should be invoked, for that

> "Balm of hurt minds, great nature's second course,"

is absolutely indispensable to the growing maiden; the skin should be kept in a healthful state through frequent and proper baths; the evacuations of the body should be carefully and regularly promoted, and a thorough personal hygiene maintained. Everything that tends to mental cheerfulness, with a reasonable allowance of gayety and mirth, should be permitted; while grief, anger, and sadness should be restrained or prevented if possible. As the first catamenial epoch approaches, the young girl will experience certain preliminary sensations, new and strange to her, yet plainly indicating that she is at the threshold of a new existence which has been wisely created for her by beneficent Nature. Now she will need, more than ever, the timely and kindly counsel and care of her mother, who should plainly and simply explain to her the significance of her feelings and the event which they foreshadow. Her school work should be lightened a little, no matter how easily she may seem to carry it on, and some diversion should be planned for her a little out of the ordinary daily routine of life. With the appearance of the first flow, absolute mental and physical rest should be enjoined, to the extent of relinquishing all study or fatiguing exercise, until the menstrual phenomena cease, and light reading of an attractive and entertaining character, together with passive occupation, may be allowed to take their place. This implies that the girl is not to attend school, nor to otherwise engage in her school work during the few days of the molimen. I would make this an absolute rule during the first periods, or until the function becomes normally established. Afterward, with some girls, one or two days' absence from school during the catamenial period may be sufficient, but, in any event, the amount of school work exacted at that time should be very much less than during other portions of the month; and this rule should be continued for ever and aye during their whole school life.

And this brings us *vis à vis* to the consideration of the present school curriculum and a critique of the system as it applies to girls. During their years from eight to sixteen or seventeen girls pass most of their time in the overcrowded and badly-ventilated school buildings which are provided by our "splendid common-school system"; or they are poring over their books at home, cramming their young brains with problems of algebra and geometry, when they might better be cultivating a healthy physique to enable them to cope with the requirements of every-day life; or else, if they are in attendance upon one of the fashionable boarding-schools or colleges for young women, we find them from early morning until late evening making systematic endeavor to ascertain just how much overwork of mind and body the human female of tender years can endure without breaking down under the mental and physical strain to which she is being subjected. I will not name any particular school or college, for I wish to criticise without seeming to be personal; but, if any one will take the trouble to investigate the matter, it will result perhaps in amazement at the amount of work which is daily exacted of pupils in attendance upon any of our so-called female colleges. This is about the average picture:

6.30 A. M., rising.
7 A. M., breakfast.
7.30 to 8.45 A. M., scriptures, chapel, prayers, etc.
9 A. M. to 12 M., studies and recitations.
12 M. to 1 P. M., dinner and exercise.
1 to 5 P. M., studies, recitations, gymnastics, and music.
5 to 6 P. M., relaxation or study.
6 P. M., tea.
6.30 to 8 P. M., studies.
8 to 9 P. M., preparations of lessons for next day.
9.30 P. M., Bible-reading and to bed.

Thus we find ten hours given to mental occupation or some form of educational duties, eight to sleep, and the remainder of the twenty-four is divided between dressing, meals, exercise, and the preparations of essays or other requirements of the curriculum. Then there are literary societies, with their various requirements, that must be attended, which absorb much of the time that otherwise could be devoted to recreation. Then, again, the buildings are quite generally large and several stories in height, so that in the course of the day there is considerable expenditure of physical energy in going up and down stairs—a factor of no mean import in the production of diseases of the pelvic organs. I have in my mind just now a large and beautiful school building in a populous city, in which the administration department is located on the first floor and the boys' school on the second floor, while the girls are compelled to ascend to the third story for their instruction. This plan seems to have been adopted with special reference to the destruction of the health of the girl pupils, and I doubt not it is fulfilling its apparent object with great exactitude. In our common schools the system is even more dangerous in its demands upon the stamina of the girls than in the private schools and colleges. A common standard is insisted upon for each grade, and the girl must work to the line with the same precision as the sturdy boy, or miss the chance of promotion to the next grade, or perhaps fail in the Regents' examination, than which nothing can be more unsatisfactory as a test of educational merit or qualification.

The scholastic training of girls is being carried on with its greatest vigor at the very time when they are physically least suited to bear the strain. Just when the ovary is beginning to require a large expenditure of nerve force the brain under our present system is also demanding all that an active cerebration can produce, and oftentimes even more. Now our girls must be taught mathematics, the classics, English literature and composition, rhetoric, logic, belles-lettres, modern languages, music, drawing, painting, astronomy, geology, botany, zoology, and Butler's *Evidences of Christianity*. All this and much more must be crowded into the years between thirteen and seventeen. Nature is demanding during this very period that the ovaries establish a function which shall properly fit the young maiden for her future sphere of wife and mother, that she may joyously and healthfully obey the mandate to "multiply and replenish the earth." How, let me ask, can she fulfill this important law of her being in any proper sense if her reproductive organs are dwarfed, weakened, and diseased by artificial causes imposed upon her during their development? It is as certain as any physiological law that the brain and ovary can not both be developed at one and the same time, unless the proper equilibrium of nerve force is maintained, without the one or the other giving way—and the ovary generally suffers first, because it is more sensitive during the establishment of its functions. It receives impressions through two avenues—the cerebro-spinal and the sympathetic or ganglionic systems. These nicely attuned rhythmic relations can not always resist for a great length of time such an undue strain as our educational system makes upon them without crying out against the outrage, or yielding, perforce, without a struggle in many instances.

Mothers should be made to understand that when their daughters begin to complain of headache, backache, and indescribable malaise, these are warnings which must be heeded. They are the manifestations of nerve-tire, the crying out of the nerve ends for rest, the protest of Nature against further continuance of overwork, the danger signal hoisted to warn of the relentless ravages of the approaching tornado; and, further, that, unless they receive a patient hearing and an intelligent interpretation during their earlier exhibitions, they will assuredly lead to serious impairment of physical and mental vigor.

The result of this overtaxation at school is, I have said, very liable to react disastrously upon the pelvic organs of the young girl. Bear with me a moment in tracing the practical working of this neglect in an imaginary case that I shall take care is not exaggerated beyond a point which I have again and again observed. A physician was consulted in regard to the ill-health of a young girl by her mother, who related her condition as follows: Age sixteen and of medium height and weight; born of healthy parents, and had always been well until about a year ago. Her first symptoms were backache, headache, and loss of appetite; constipation appeared later, with flatulence, acid eructations, and foulness of breath. The catamenia appeared at fourteen and went on with regularity for nearly a year; then began pain a little prior to the flow, which had increased with each succeeding epoch, until now she was obliged to take to her bed and resort to active measures for relief. The flow had also become scanty and was associated with leucorrhœa of an ever-increasing quantity, while the bladder had also become irritable. There was a sense of weariness consequent upon the slightest mental effort, that finally compelled the abandonment of all attempts at study. Noisy insects, like locusts, fretted her in the extreme, while insomnia of the most distressing obstinacy was a nightly horror. The hue of robust health had disappeared, and in its place had come the flush of invalidism upon the least excitement, or the paleness of anæmia in repose. Her hands and feet were cold, and fugitive neuralgic pains were ever constant. The school history of this young girl was briefly told. She had taken the usual course of brain-cramming, until her overtasked and overtaxed mind had become bewildered in its efforts to maintain the struggle, while her weakened and enfeebled body had utterly refused to carry the burden farther. She was in ruddy, robust health at fourteen, and an invalid at sixteen, thanks to the folly of an ambitious though kind-hearted mother, who never saw the evil that the early symptoms foreboded. She confessed that she never had supervised the menstrual week of her daughter, nor cautioned her in any way as to the abridgment of mental or physical exertion during its progress. Now that the mischief was done, she sought the consulting room, full of a self-reproach that verged on the agony of despair.

In another case, older than this, was found less mental disturbance, but more sexual disorder. The ovaries were tender and swollen, the womb was engorged and indurated, and there were uterine hyperplasia and pelvic blood stasis. The linen was stained with leucorrhœa of uterine origin, which had irritated the vaginal mucous membrane in a marked degree. On occasions she was hysterical, moody, or irascible, and at other times cheerful, amiable, witty, and entertaining. Forgetful of her misery under the influences of excitement, she would rise from a bed of torture and join in social gayety, dancing, and mirth. The consequence was, she did not command the sympathy her real condition merited. It is too often the case that those in daily contact with such a patient do not comprehend that her remote sympathetic disturbances may exist as a terrible reality when her physical appearance does not indicate disease. The error is a serious one, for the want of consideration and sympathy on the part of friends or relatives often serves to depress and obtund the already impaired mental and moral faculties, which, reacting upon the disease itself, helps to aggravate all its symptoms.

The sexual system is the pivotal part of woman's organism; when it becomes disordered or diseased, the whole economy is upset in its functions to a greater or less extent—its pernicious effects pervade the very warp and woof of her being. The reproductive organs are in intimate relation with all the other organs through the ganglionic system, and with the brain through the cerebro-spinal system as well. At puberty, and for some time before as well as after, the nervous system is the dominant element in the female economy, and these two systems, the sexual and nervous, act and react upon each other with a complexity which, though interesting to study, is difficult to comprehend. Now, suppose the nervous supply to the sexual system is received from an overtaxed and badly nourished brain, what may be naturally expected to happen? Surely it is but reasonable to anticipate disturbance of the functions of the latter proportionate to the fatigue and innutrition of the former. The nerve-ends become irritated and cause aches and pains in the organs to which they are distributed. The circulation is under control of the nervous system; disturbed innervation of the blood-vessels leads to vascularity; irritation causes supervascularity, and, as a consequence, we have increased arterial pressure—the flux begins; the arterioles dilate—tone is lost; the equilibrium between the venous and arterial systems is no longer maintained; there is venous engorgement, and, finally, blood stasis. From blood stasis to congestion is but a step; then follow dysmenorrhœa, supersecretion, endometritis, for anything that produces stasis of the blood may also cause endometritis, the arteries carrying more blood to the pelvic organs than can be returned by the veins, with the sequent catarrh. All these conditions, I affirm, may be resultant from the nerve turmoil which begins in the overworked, weary, and anæmic cerebrum.

It is not my purpose to carry on this desultory and necessarily imperfect pathological sketch much further, enough having already been said for the purposes in view—viz., to show that the essence of the disease in these cases lies not in the reproductive organs in the beginning, but in the nerve centers, whence by the predomination of the sexual sphere at this age the local expression of the fault is referred to the sexual system; but I may pause to remark in this connection that just here begin the causes oftentimes which in after-life produce the sterile wife or invalid mother. I have no doubt that in many instances these deplorable conditions take origin in the overeducation or improper education of girls during the tender years of their development into young womanhood; and that the pangs of maternity are thereby increased far beyond the limitations of the mandate of Deity in the decree to woman, "In sorrow and suffering shalt thou bring forth children."

Here begin those pathological changes in the genital tract that result in lacerations of the cervix, rents of the perinæum, and other lesions of parturition. The roll of maladies which affect the reproductive apparatus of women arising from jaded nerves is a long one, but it need not be listed here. Surely were the elder Hodge alive he might with propriety re-exclaim: "The womb is subject to so many ills, what a pity 'tis a woman has a womb!" but he would find some justification in adding "and ovaries" also.

The relation of the ovaries to the brain and nervous system is an intimate one. The full discussion of the subject involves physiological studies that are not germane to the purposes of the evening. Nevertheless, it is proper to keep in mind that the sexual organs are dependent upon the general nutritive system for organic support, that they stimulate, depress, or otherwise modify nutrition chiefly through the ganglionic nerves, and that the portion of the brain which presides over the organic functions also dominates the reproductive organs.

Let it likewise be remembered that the emotions are in part dependent upon the sexual organs for their proper development, and that the sexual system is in turn largely affected by the emotions. This is so near a truism that no one will attempt to controvert it. It is also a well-understood fact that the emotions, such as anger, fear, and even excessive joy, are capable of modifying and even arresting, temporarily at least, the menstrual function. In view of this great potentiality of the ovaries (I quote in substance, though somewhat at random, the next few sentences from Skene's masterly essay, to which reference is made at the end) in developing certain capabilities of the brain and nervous system, and in influencing their functions, it is evident that, in order to maintain harmonious action of the whole organism, it is necessary that the ovaries shall exist in full development and functional activity. Moreover, these organs, which are so essential to the good health of woman, when diseased, exercise a potent influence in deranging the brain and nervous system. Imperfect development of the ovaries not only modifies the physical peculiarities of woman, but also retards the development of the higher nerve-centers.

All this goes to show the mutual dependence and independence of the brain, nerve-centers, and the sexual system. Neither can be deranged or morbidly disturbed for any considerable length of time without seriously affecting the other. This subtle interplay of cause and effect may be difficult to distinguish; nevertheless, it is easy to understand how a worn, weary, and anæmic brain may serve as an ætiological base from which may spring manifold disturbances of organ and function in the reproductive system. Now it is amenorrhœa or scanty menstruation, with neuralgic and hysterical pains, due to the anæmia of the sexual organs; and again it is dysmenorrhœa, menorrhagia, and leucorrhœa, due to the hyperæmia of the same; or, still again, it is manifested in uterine flexions and dislocations, in ovarian displacements, congestions, or perturbations, and in a variety of other phenomena, subjective and objective, with which every physician is more or less familiar.

It is, I am persuaded, too common an error to regard the sexual fault as a prime factor in the causation of all the mischief, and to address energies chiefly to the local group of symptoms in efforts to bring about repair, whereas many of these disorders do not constitute the essential disease, but are merely local expressions of the general neurosis. Attention is called to this point simply to show the importance of investigating the condition of the nerve centers in young women of school age when advice is sought in reference to menstrual and other disorders of the pelvic organs, for I asseverate that it will generally be ascertained that these disturbances take origin in malnutrition of the nerve-centers, which in turn derange the circulation, causing both anæmia and hyperæmia of the various vital organs. The jaded and worn out nerves of the overworked and underfed school-girl make a poor foundation for the construction of good blood, and at this period of life poverty of the blood can not long continue without causing secondary disturbances, which result in serious impairment of the reproductive apparatus.

It appears to be the ambition of many—I had almost said the majority of—teachers to have their pupils attain a certain point of efficiency within a given period of time, and this without regard to their capacity, physical or mental; and this ambition is too often stimulated by the anxiety of parents or friends. Their capacity and usefulness is too apt to be measured by the quantity of so-called book knowledge which they can pack into these tender and sensitive brains within a given time, and this without much regard to the quality thereof. Similarly, it was formerly the fashion to estimate the value of the family doctor by the extent of his "ride" and the quantity of medicine he dealt out of his saddle-bags.

To accomplish the end sought, there must necessarily be, in many instances, an overlapping, crowding, and packing edgewise to an extent that is as utterly useless as it is incomprehensible. Then comes the wearing excitement of public examinations, the worry as to class standing, and the bustle and confusion of the final examination day. Nerve stimulants are resorted to in order that everything may go well, or at least appear well, during the trying ordeal of the valedictory essay. At last, when all is over and the tension is taken off, the poor, weary, worn, and care-tired girl, released from the strain of the never-ending worry of lessons and tasks and examinations, sinks down into utter despair of body and soul, unfitted for and unable to make any further mental or bodily effort whatever, and either seeks the consultation room of the much-dreaded yet ever-kindly gynæcologist, or abandons herself to a semi-helpless, if not hopeless, chronic invalidism.

Another class of these victims of our high-pressure system, with more stamina of constitution than the one just described, passes through all the trials of the recitation-room and the strain of commencement day, coming out of the ordeal apparently unscathed in mental and bodily vigor. Passing out of the school-room into the active world and taking up the ceaseless demands of every-day life, with its home, church, charity, and society duties and obligations, they suddenly learn that they are unable to bear the strain of this toilsome after-work; that the mainsprings of their being have been so weakened by the tension of the schools that they are obliged to retire from the field of usefulness that they had planned for themselves and so eagerly looked forward to, only to drag out a miserable existence in a self-imposed celibacy, revolting alike to the laws of society and of nature. Or, perhaps, in other instances, they take upon themselves, ill-advisedly, the duties and responsibilities of matrimony, only to find, alas! too late, that the trials of maternity are greater than their frail, diseased, or disturbed reproductive organs can withstand; or else, perchance, they find themselves cursed with the upas tree of sterility, which has poisoned forever the atmosphere of their married lives.

Thus, by a somewhat circuitous route, have we reached the climax of this desultory discourse, and now hasten to its conclusion.

I can not pretend, within the narrow limitations of the hour that custom allots to me at this time, to offer in detail any well-considered remedy for the evils that I have sought to draw attention to anew: but I may be permitted to say, for myself, that I am fully persuaded that four hours a day of study or school work, for girls between the ages of twelve and sixteen years, are quite as many as they can healthfully endure; and, further, that during each catamenial period they should be permitted to forego the recitation-room. Furthermore, mothers should more universally and thoroughly supervise this important week than they do, as a rule, at present; they should not only insist that their daughters at this time deny themselves of all excessive or consecutive mental and bodily effort, but they should diligently instruct them in the laws of periodicity, to which their natures are inevitably tending.

I would have these young girls especially taught the importance of eating good, but plain, wholesome, nutritious food, and, above all, the necessity of eating a hearty breakfast. Too many young women have grown up to regard it as vulgar to indulge the appetite at the morning meal, and have been allowed to cultivate the habit of "mincing" and "sipping" at a few dainty dishes, or have been permitted to go without breakfast altogether. Nothing, in my view, can be more pernicious than this dawdling over the much-needed though often uneaten breakfast. A recent writer, in a work of fiction, has so aptly and concisely stated the importance of this matter that I can not forego the temptation to quote his words: "There is no better test of a woman's health than her ability to eat a hearty breakfast, and it might also be said that her physical beauty is in direct proportion to the amount of beefsteak or mutton chops she can put into herself at this meal. Certainly pretty women can eat a hearty breakfast."

I would, moreover, have the dress of the school-girl so constructed as not to violate the simplest laws of health. The fabric should be warm and the underwear particularly thick, though soft and fluffy, in climates where the temperature changes are so sudden and extreme as this—all to be supported from the shoulders and not allowed to drag from the waist, thus to interfere with the proper development of the abdominal and pelvic organs.

Finally, I would be sure that no girl should enter a boarding-school where the building was more than two stories high; or, indeed, attend any school where she would be compelled to go above the second story to study or recite her lessons. Elevators in these buildings are a delusion and a snare, as they are seldom in working order. The evils of going up long and steep flights of stairs are manifold and too well known to require elaboration at my hands.

These, then, compose a few of the errors to be avoided and evils to be overcome germane to the subject of our discourse. The list might be extended almost indefinitely without exhausting the theme, though it would be sure to exhaust the patience of this audience. It will be fortunate for me if I have not done so already.

For many of the thoughts here grouped I am indebted to the writings of others. I have not hesitated even to adopt their language in some instances when I have thought my argument was best sustained by so doing, and though I could not stop to give credit in the body of the discourse, I have appended a list of references that will amply serve the purpose.

As a final word, let me say that this subject has not been presented as a novelty, or because of originality in dealing with it, but rather on account of what the writer conceives to be its growing importance in this period of overwork and under-rest; and for the further reason that if any reform is to be wrought out in the training and education of girls, it must be done by the co-operation and combined efforts of educators, physicians, and mothers. Fathers, in the very nature of things, are powerless to control the education and training of their daughters. They can not guide their social career or regulate their general or sexual hygiene. For obvious reasons, custom and propriety have said they shall not be permitted to interfere in these matters, but have committed them all into the hands of mothers. It therefore behooves a mother to properly fit herself for the task of bringing up her daughter before she undertakes the responsibilities pertaining to motherhood. A great responsibility, too, devolves on the family doctor, who must necessarily assume the rôle of chief adviser to the mother in all that pertains to the welfare of her girls. Educators also must make a study of their work from physical, hygienic, and health standpoints, and particularly enlighten themselves as to the training of girls.

From all this it would appear that mothers, educators, and physicians are not only jointly and severally interested in the problem set forth in this discourse, but I hold that they are in duty bound to co-operate in improving the methods of training girls that now prevail. But of all these I hesitate not to declare that the greatest, most abiding, and weightiest part of the responsibility rests upon the mothers. Hence to them I would especially commend the subject that I have only imperfectly outlined, and would bespeak its most serious consideration at their hands.

References.

Clark. *Sex in Education.*

Clarke. *The Building of a Brain.*

Spencer. *Education—Intellectual, Moral, and Physical.*

Goodell. *Lessons in Gynæcology.*

Hammond. *Lal.* A novel.

Busey. The Influence of the Constant Use of High-heeled French Shoes upon the Health and Form of the Female, and upon the Relation of Pelvic Organs. *Trans. of the Am. Gynæc. Soc.*, vii, p. 243.

Skene. The Relations of the Ovaries to the Brain and Nervous System. *Am. Jour. of Obstet.*, xiv, p. 54.

Hutchins. School Hygiene, with Reference to the Physiological Relations of Age and Sex to Mental and Physical Education. *Trans. of the Med. Soc. of the State of New York*, 1875, p. 112.

284 FRANKLIN STREET.

Original Communications.

NINE CASES OF DETACHMENT OF THE RETINA TREATED BY OPERATION,

*WITH REMARKS.**

BY DAVID WEBSTER, M. D.,
NEW YORK.

THIS report includes all the cases of detachment of the retina treated by operation at the Manhattan Eye and Ear Hospital and in my private practice. I am indebted to my colleagues, Dr. J. B. Emerson and Dr. F. M. Wilson, for two of the cases. Nine patients were operated upon; two of them had both eyes operated upon at the same sitting; two of them had the same eye operated upon twice, about two months having intervened between the first and second operation in one case, and eight days in the other case; so that, in all, thirteen operations were done upon eleven eyes—one of them by Dr. Emerson, three by Dr. Wilson, and nine by myself. All the operations were done under cocaine. In every case the most thorough antiseptic measures were employed, both as regards the instruments used and the eye operated upon. In no case was there any serious inflammatory reaction caused by the operation, and in only two was there enough irritation to make it necessary to remove the bandage and apply iced cloths.

As a rule, the bandage was removed daily and an ophthalmoscopic examination made. Then atropine was dropped in and the bandage reapplied. The patients were kept in bed for a time varying from a few days to a few weeks. Six of the patients operated upon were men; three were women. Their ages varied from thirty to sixty-nine. Six of the nine patients had been subjected to long courses of previous treatment, which did not seem to affect the result to any great extent.

Results.—Of the eleven eyes operated upon, all were improved temporarily. One was cured, apparently permanently; four were greatly improved, apparently permanently; six relapsed after showing more or less improvement, and became about as before. None were made worse by the operation.

---

* Read before the Section in Ophthalmology and Otology of the New York Academy of Medicine, January 19, 1891.

The operation, if done with care and with due antiseptic precautions, seems to involve very little risk, and I think it should be resorted to in all recent cases, especially after the recumbent position with pilocarpine sweats has been tried without satisfactory results.

Case I.—John W. B., aged sixty-one, farmer, was brought to my clinic at the Manhattan Eye and Ear Hospital on March 20, 1889, by Dr. Bradbury, of Norway, Me. He said that he had always been near-sighted, and that in April, 1887, he had got a blow on his right eye. Soon after, on the same day, he first noticed black spots before the eye. This continued for two weeks, when he awoke one morning blind in that eye.

About six weeks ago he began to be troubled with floating black spots before the left eye, and two weeks since that eye became suddenly blind in part. Vision has been growing constantly worse, but, with his pupil dilated by a mydriatic, he can at times distinguish a horse from a cow.

R. V. = perception of light. L. V. = $\frac{6}{200}$.

Ophthalmoscopic examination shows almost complete detachment of the right retina, a very small portion of the infero-nasal periphery remaining in place. In the left eye the supero-temporal quadrant of retina hangs down like a curtain. The lower and nasal portions seem to be in their normal condition.

In both eyes there are old corneal opacities and incipient cataract. Both eyes were placed under cocaine, and, having thoroughly washed them with Panas's fluid, I made an opening through the conjunctiva, laying bare the sclera between the external and inferior recti of the right eye, with scissors. I then punctured the sclera with a Graefe's cataract knife, and, turning it a little on its axis, evacuated a considerable quantity of subretinal fluid. The same operation was performed upon the left eye, except that the site chosen was on the supero-temporal aspect of the eyeball. Atropine was dropped into both eyes and a bandage applied.

March 22d.—The patient has had slight pain in the right eye; none in the left. The ophthalmoscope shows slight change in the position of either retina. Atropine was dropped in and the bandage reapplied.

23d.—The detached portion of the left retina is no longer hanging down behind the pupil. The patient is put upon hypodermic injections of pilocarpine.

30th.—Has had a pilocarpine injection every night sufficient to cause temporary salivation and sweating, and has been kept in bed with his eyes bandaged.

R. V. = counts fingers at one foot. L. V. = $\frac{4}{200}$.

April 10th.—Has been allowed to sit up in a chair part of the time for the past week.

Ophthalmoscopic examination of the left eye shows that, while the bag-like detachment in the upper part is much smaller, there is a considerable area of detachment below, which was not observed before.

In the right eye no well-defined detachment could be made out. The optic disc could be seen, but the whole fundus was more or less obscured by corneal, lenticular, and vitreous opacities.

19th.—R. V. = counts fingers at three feet. L. V. = $\frac{13}{200}$. The patient was allowed to go home.

December 6th.—Returned for extraction of cataract from the right eye. L. V. = counts fingers at two feet in lower half of field. Discharged on December 26th, with vision the same.

Case II.—Mrs. McG., aged sixty, boarding-house keeper, was brought to me at the Polyclinic by my clinical assistant, Dr. Belle Macdonald, February 5, 1890. She complained of blindness of the left eye, which had come on quite suddenly about a week previously. For several years there had been black spots before the eye, but she had always been able to see with it until this attack. There was some lacrymation and photophobia of both eyes.

Examination showed that the right eye was normal. The vision of the left was reduced to perception of light, except in the extreme temporal periphery of the field, where she could count fingers at one foot. Ophthalmoscopic examination showed a large detachment of the temporal portion of the retina and considerably advanced cataract. The optic disc seemed normal.

February 12th.—The operation of scleral puncture was performed, the puncture being made in the infero-temporal quadrant of the sclera, and all the subretinal fluid being allowed to escape that would.

15th.—The bandage was removed and the vision tested. The patient could count fingers with the operated eye at a distance of four feet in all parts of the field.

December 8th.—The eye was examined by Dr. Belle Macdonald at my request. She found the vision reduced to perception of light. The red reflex from the fundus could still be seen through the periphery of the cataractous lens.

Case III.—James W., aged forty-nine, came to see me at the Manhattan Eye and Ear Hospital June 12, 1890. He said that four weeks ago he had a sudden neuralgic pain in his right eye. The pain stopped in about five hours, and then he noticed a large cloud before the eye. In three days the sight of that eye was almost gone, and since then there has been but little change.

R. V. = perception of light. L. V. = $\frac{20}{30}$ + with − 3 D.

Ophthalmoscopic examination shows floating bodies in the vitreous of both eyes and detachment of the right retina, more prominent below and to the temporal side, but extending all around the fundus. The patient was put to bed, atropine dropped into both eyes thrice daily, and a hypodermic injection of pilocarpine was given every evening.

June 14th.—Slight œdema of lids of both eyes, and a little chemosis of the right, probably due to atropine. Stopped the atropine and continued the bandage and the pilocarpine sweats. The patient counts fingers with his right eye.

17th.—The bandage seems to irritate the patient's eyelids. It is therefore to be left off.

19th.—R. V. = $\frac{20}{100}$. The ophthalmoscope shows some re-attachment. The pilocarpine sweats and rest in bed are continued.

July 7th.—It was evident that this patient would not bear treatment by pilocarpine and the recumbent position any longer. Moreover, instead of improvement under that treatment, there had been deterioration in the last two weeks. The vision, which was $\frac{20}{100}$ on June 19th, had fallen to $\frac{20}{200}$. We therefore decided to give the patient the benefit of an operation.

The eye having been cleansed with Panas's fluid and thoroughly cocainized, I thrust, with a good deal of difficulty, the needle of a hypodermic syringe through the eye wall into the space occupied by the subretinal fluid and endeavored to withdraw some of the fluid *à la* Gruening. But I could not get any of it to come out into the syringe, although I pointed the needle in various directions, withdrew it a little, pressed it in a little further, and tried in every way that I could think of.

I then withdrew the hypodermic needle and introduced a Graefe's knife at the same point—a point on the infero-temporal aspect of the globe and as near the equator as possible. On twisting the knife a little a considerable quantity of the fluid escaped, diffusing itself under the conjunctiva, which it raised up like a large bleb. Before removing the knife from the globe a sudden thrust was made with the object of piercing or wounding the retina, so that lymph might be thrown out attaching the retina to the chorioid at the point where they both were wounded. Ophthalmoscopic examination now showed the retina to be in folds instead of a smooth bulging mass as before. Atropine was applied, both eyes bandaged, and the patient put to bed.

10th.—No reaction. Good general red reflex from fundus. General haziness.

11th.—Still some detachment remaining below.

14th.—Complete reattachment.

R. V. = $\frac{20}{50}$. L. V. = $\frac{20}{20}$. He is now sitting up part of the time. The bandage is now left off.

17th.—No detachment. All treatment stopped.

20th.—R. V. = $\frac{20}{50}$ w. − 3 D. Field perfect as seen by chart of this date.

21st.—Discharged from the hospital.

November 20th.—R. V. = $\frac{12}{200}$: $\frac{20}{40}$ w. − 5 D. L. V. = $\frac{12}{200}$: $\frac{20}{20}$ w. − 3·50 D. Ordered the glasses correcting the myopia.

December 22d.—Vision and refraction as last noted. Visual fields perfect. No detachment of retina nor floating bodies in the vitreous. There is moderate staphyloma posticum, and the fundus is heavily stippled with dark pigment.

CASE IV.—A. S., aged fifty-nine, bookkeeper, was referred to me by Dr. Neil J. Hepburn, June 24, 1890.

He had a detachment of his left retina of many years' standing and had been wearing glasses, − 3 D., for the distance, and none for the near.

Three days before I saw him the temporal portion of his right retina had become detached. The detachment did not include the macula, but bulged across it so as to prevent central vision.

R. V. = $\frac{5}{200}$: $\frac{20}{200}$ with his glass. L. V. = $\frac{7}{200}$: $\frac{20}{200}$ with his glass.

I advised Dr. Hepburn to put him to bed and to give daily injections of muriate of pilocarpine.

July 5, 1890.—The pilocarpine treatment in the recumbent position has been faithfully carried out. The patient feels weak in his limbs and is unsteady and uncertain in his gait.

R. V. = $\frac{4}{200}$: $\frac{20}{200}$ with his glass. The detachment remains the same.

8th.—Dr. Fulton, of St. Paul, and Dr. Payne being present, I made an incision through the sclera and chorioid at the site of the detachment and endeavored to draw off some of the subretinal fluid with a hypodermic syringe. But no fluid came, though repeated attempts were made. I then reinserted the knife, and, on twisting it a little, a considerable quantity of not very thin fluid escaped. I then punctured the eye wall, and tried to puncture the detached retina in four different places. No hæmorrhage in the vitreous could be seen, but there was an appreciable shrinking of the detachment. Atropine was instilled, and both eyes were bandaged.

9th.—No detachment can be seen, but the vitreous is hazy as from a hyalitis.

August 4th.—R. V. = $\frac{20}{200}$; no improvement with glasses. Reads J. No. 18.

September 9th.—R. V. = $\frac{20}{200}$; large detachment of lower part of retina.

13th.—Punctured the eye wall infero-temporally, and also in the vertical meridian as far back as possible. The first puncture evacuated a great deal of fluid; the second, very little. After the operation the retina could be seen to be detached, but less prominently than before.

14th.—The retina is again in place, with the same hazy vitreous as after the first operation.

October 9th.—R. V. = $\frac{20}{200}$; no improvement with glasses. There is detachment below and extending from the temporal to the nasal side.

CASE V.—Mike S., Italian laborer, aged twenty-nine, came to my clinic at the Manhattan Eye and Ear Hospital on October 1, 1890. As he could not speak English, no definite history was obtained. From the fact that the detachment of the right retina was above, hanging down over the optic disc like a bag, it was inferred that it was not of very long standing. The blood-vessels could be seen with + 23 D.

R. V. = perception of light. L. V. = $\frac{20}{20}$.

The operation was done on the same day. The upper lid was held back with an elevator and the eyeball turned down as much as possible with a fixation forceps. The conjunctiva was picked up with the forceps above, far back, and just to the outer side of the superior rectus muscle, and snipped with scissors, laying bare the sclera. Then, with a Graefe's cataract knife, the sclera and chorioid were pierced, and the knife was twisted a little, allowing the subretinal fluid to escape. There was, of course, no effusion under the conjunctiva. Before the knife was withdrawn, a final thrust was made to puncture the retina. Immediate examination showed little, if any, change in the appearance of the detachment. The patient was put to bed with his eyes bandaged.

October 2d.—Uniform red reflex; no detachment can be made out. Vitreous hazy.

3d.—Examination shows the same condition.

4th.—There appears to be a small detachment of the upper and outer periphery of the retina.

5th.—Reflex good; can make out disc and large blood-vessels. Some fine floating bodies in the vitreous.

8th.—Can not make out any detachment; can trace the blood-vessels out as far as in the normal eye. Some vitreous opacity still.

10th.—There may be a very small amount of detachment above and to the outer side, but can not determine positively.

R. V. = $\frac{20}{100}$.

The patient was discharged and requested to come as an out-patient, but has not done so.

CASE VI.—James Cochran, aged thirty, came to the Manhattan Eye and Ear Hospital October 1, 1890. He said that on the 12th of July his attention was first called to his left eye by closing his right, when he discovered that he could only see objects dimly. No cause could be assigned for the loss of sight.

R. V. = $\frac{20}{20}$. L. V. = perception of light.

Ophthalmoscopic examination showed a vitreous full of floating bodies. A reflex could be seen above, but none below. Although the detached retina could not be distinctly seen, yet there was a certain waviness in the dark area below that made it certain that far the larger half of the retina was detached. The eyeball was punctured with a Graefe's knife inferotemporally as far back as possible. The knife being twisted on its long axis, a large quantity of subretinal fluid escaped, the most of it diffusing itself under the conjunctiva. Before the knife was withdrawn an attempt was made to puncture the retina. Examination immediately after showed no special change. The eyes were bandaged and the patient put to bed.

October 2d.—Perfect reflex over the whole of the fundus.

4th.—Perfect reflex, but fundus can not be examined on account of vitreous opacities. Some pain and redness of eyes. Bandage discontinued and iced cloths applied, with atropine three times a day.

8th.—Perfect reflex, and can make out some of the larger retinal vessels.

10th.—L. V. = $\frac{2}{200}$. The patient was now discharged and instructed to return to the clinic.

15th.—L. V. = $\frac{20}{70}$; no improvement with glasses. Vitreous opacities less.

November 5th.—L. V. = $\frac{20}{40}$; visual field normal. Reads J. 1 with difficulty with left eye.

The ophthalmoscope shows a large mass of black-looking opacities in the lower part of the eye. A small amount of detached retina can be made out very high up.

December 3d.—L. V. = $\frac{20}{40}$; field normal.

Case VII.—H. S. Newell, aged fifty, came to the Manhattan Eye and Ear Hospital saying that he had always been near-sighted. When twelve years old he was struck on the right eye with a hair-brush. There was entire loss of sight for a few hours. After two days the eye was all right. When thirty years of age he noticed that the sight of the right eye was failing, and that there were "little halves of light off and on." He consulted Dr. Holmes, of Chicago, who said he had cataract. For eight years he has not been able to see objects with his right eye. His left eye was good until three weeks ago, when a cloud came over it. He consulted Dr. Norton, who told him he had detachment of the retina. He was treated by recumbent rest for twenty days without benefit. He now desired to have the cataract removed from the right eye. The candle test showed a very imperfect field, leading us to suppose that there was detachment of the lower part of the retina, but we thought that, under the circumstances, an extraction would be justifiable. Accordingly, we extracted the cataract on April 14, 1890, and the patient went out with ultimate vision of $\frac{5}{200}$ in that eye.

October 13, 1890.—He decided to have his left eye operated upon for detachment of the retina. His morning vision in the left eye was $\frac{20}{200}$, but it became much worse in the course of the day. The detachment was principally below, and could be seen with + 19 D. It seemed to be divided into two nearly equal portions by a narrow strip of retina that remained attached to the chorioid in the vertical meridian. The appearance was that of two hills with a chasm between them.

The puncture was made with a Graefe's knife on the inferotemporal aspect of the eyeball, the sclera having been laid bare for the purpose. After the subretinal fluid had been allowed to escape, an attempt was made, by means of a quick thrust, to puncture the retina. Examination immediately after the operation showed no special change in the appearance of the detachment.

14th.—No reaction; reflex perfect. Retina in place, but very pale-looking. Bandage discontinued, patient kept in bed, and atropine used.

16th.—The retina is absolutely in place. The blood-vessels can be traced as far as in the normal eye, are of fairly good size, and have the light streak along their centers.

19th.—Patient sat up a while yesterday. This morning he has a partial detachment at the site of the old one. No light streak on the blood-vessels. He was now kept in bed and put upon injections of pilocarpine.

25th.—He has been getting a pilocarpine sweat each night, and has been kept on his back; but a small amount of his retina remains detached, and the chasm between the two detached portions can still be made out.

L. V. = $\frac{20}{200}$.

December 26th.—Discharged.

Case VIII.—Ann M., aged sixty-nine, under the care of Dr. J. B. Emerson at the Manhattan Eye and Ear Hospital, said that, nine months ago, she first noticed "rings of fire" and "flashes of white and colored lights" before her right eye. She had been treated with powders internally for several months, at the Ophthalmic Hospital, without benefit. She had then placed herself under Dr. Emerson's care at the Manhattan, and been treated with atropine and with the bichloride internally for about three months. The right eye had been practically blind for five months at the time of the operation, April 9, 1889.

R. V. = perception of light. L. V. = $\frac{20}{200}$.

The ophthalmoscope showed that the entire lower half of the retina was detached, the detachment extending a little higher on the nasal side.

Under cocaine, Dr. Emerson made an opening in the conjunctiva, near the insertion of the right internal rectus, and, having carefully exposed the muscle, passed a Graefe's knife directly backward into the globe. Exudation and vitreous escaped to a small extent. A bandage was applied.

April 11th.—Very little reaction; wound healed.

17th.—R. V. = $\frac{2}{200}$. Discharged.

This patient was seen by Dr. Emerson some months later, and was then totally blind in that eye. She had chorioiditis of the left eye, and it was for that she was treated with the bichloride.

Case IX.—Louise W., aged thirty, under the care of Dr. F. M. Wilson, at the Manhattan Eye and Ear Hospital, said that she had always been very near-sighted. Some time within three months she suddenly lost the vision of her right eye, and, about a week before entering the hospital, she lost the sight of the left in the same way. The ophthalmoscope showed complete, or nearly complete, detachment of both retinæ. On the day of her admission, November 29, 1890, she was put to bed on her back, and not allowed to get up on any account. Both eyes were kept bandaged, and she was given a hypodermic injection of pilocarpine every night, about a seventh of a grain, or sufficient to cause spitting and sweating.

December 2d.—Has had a good sweat each night. Says she can see some better.

4th.—Not much change.

16th.—The same treatment has been continued very persistently. She has not been in an upright position, and has had a good sweat each night. She seems to have some improvement in vision of left eye.

20th.—She counts fingers with left eye at one foot, and can perceive moving objects with right eye. The ophthalmoscope shows marked detachment above and below to the nasal side in the right eye, and above and below to the temporal side in the left. The detachment above hangs down like a bag, almost obscuring the disc, the lower rim of the disc only being visible. An operation has been decided on, as the horizontal position, pilocarpine sweats, and bandaging have proved a failure.

Both eyes were cocainized and cleansed. The lids were held open by a spring speculum. The conjunctiva was picked up and snipped with scissors as far back as possible in the inferonasal quadrant of the right and the inferotemporal quadrant of the left eye. After conjunctival hæmorrhage had ceased, a Graefe's knife was passed through the sclera and chorioid at the places described, the knife being held at right angles to the point of puncture; then twisted upon itself, allowing the subretinal fluid to escape. Then a quick thrust was made to puncture the retina. As the amount of fluid escaping from the right eye was so large, and as there was some slight collapse of the globe, it was thought some of it might have been fluid vitreous. Both eyes were bandaged, and pilocarpine was discontinued.

22d.—Bandage removed; eyes opened; no reaction from operation. She thinks she sees better. Bandage reapplied and patient kept in bed on back, as before.

28th.—Eyes have been washed every day and bandage reapplied. Counts fingers with left eye at four feet; sees moving objects with right.

Ophthalmoscope shows complete reattachment left, but detachment infero-nasally in right eye.

It was now decided to repeat the operation upon the right eye. The eye was cleansed and cocainized and the ball rolled upward and outward, and a Graefe's knife passed into the globe as far back as possible in the inferonasal region, the lower lid being held down by an assistant. The knife was twisted upon itself as before, and the subretinal fluid allowed to escape, but not all of it, as in the first operation it was thought that some of the fluid vitreous escaped. No thrust was made to puncture the retina. A bandage was applied over the right eye only.

30th.—No reaction from the operation and no especial improvement. The detachment seems to be more or less complete all around the fundus. The retina of the left is again detached on the whole temporal side. It was considered unadvisable to keep the patient in bed any longer.

January 3d.—She has not been able to sit up much of the time, owing to her extreme weakness. Milk punches were given but did not agree with her. She was ordered claret with her meals.

5th.—Claret does not agree with her. She is getting along very slowly. Ordered elix. fer. phos. calisayæ c. strychnina, ʒj, t. i. d.

9th.—Improving physically and visually. Can see to get about. Counts fingers at four feet with left eye, and at two feet with right.

10th.—Is much stronger, and goes about fairly well.

R. V. = $\frac{2}{200}$; no improvement with glasses. L. V. = $\frac{12}{200}$; no improvement with glasses.

I may add that in nearly all the cases the retina seemed to have resumed its normal position two or three days after the operation, and that in nearly all the cases there seemed to be a mild and transient form of hyalitis, the vitreous being full of minute floating opacities. This would clear up in about a week, leaving only the original floating bodies, if there were any.

A CONTRIBUTION TO THE STUDY OF THE TREATMENT OF RETINAL DETACHMENT.*

By J. B. EMERSON, M. D.,

SURGEON TO MANHATTAN EYE AND EAR HOSPITAL;
PROFESSOR OF DISEASES OF THE EYE AND EAR,
NEW YORK POST-GRADUATE MEDICAL SCHOOL AND HOSPITAL, ETC.

Retinal detachment is one of the conditions of the eye which ophthalmologists most dread to meet, but, to quote a distinguished member of this section, while the prognosis is always bad, the results of treatment are sometimes good. I propose in this paper simply to give the treatment, and its results, of cases which have been seen at the Manhattan Eye and Ear Hospital during the past few years.

There are three methods of treating retinal detachments—the mechanical, therapeutical, and surgical methods. Either one or more of these were used in the same case. By mechanical treatment I mean keeping the eye fixed by means of a compress and bandage, and the patient in a supine position; and whether or not we use therapeutics or surgical instruments, this is generally considered the proper thing to do, and, in my opinion, is essential for success.

The conditions which present themselves for consideration in a simple case of detachment of the retina are a retina separated more or less from its naturally contiguous chorioid, a serous fluid filling this cavity formed by the separation of chorioid and retina, and probably a degenerated fluid vitreous on one side and a diseased chorioid on the other.

It is obvious that there can be no reattachment as long as the outer surface of the retina is kept from coming in contact with the chorioid by the subretinal fluid; and our first endeavor is to get rid of this fluid.

This occurs rarely spontaneously, but the surgeon who waits hopingly for such a result would, I think, be justly condemned.

We can dispose of this fluid in two ways: either by medication, in which we use drugs which diminish the fluid contents of the vascular system by diaphoresis, salivation, or diuresis, and thus cause reabsorption of the subretinal fluid, or the fluid can be evacuated by a puncture.

I have examined the histories of cases treated at Manhattan Eye and Ear Hospital by the use of drugs, and herewith briefly report them with the remote results as far as can be ascertained.

The drug most frequently used has been hydrochloride of pilocarpine, given daily by hypodermic injection, beginning with one eighth of a grain and increasing or diminishing the dose as required to produce diaphoresis or salivation. Salicylate of sodium was also used in several cases.

The following cases are from the practice of Dr. Roosa and myself:

Cases I. and II.—G. H., twenty-two years of age, a cashier, came to the hospital June 18, 1888. Ten days before, upon awakening in the morning, she discovered that the vision of the left eye was impaired. There was no history of traumatism. She had been near-sighted since a child, and was wearing —8, with which the vision of the right eye was $\frac{20}{20}$ and the left eye $\frac{20}{200}$. The ophthalmoscope showed the retina of the left eye to be detached below. Two days later, as there was more extensive detachment, the patient was admitted to the hospital, placed in a recumbent posture, both eyes bandaged, and daily injections of pilocarpine given, from which there were no bad results. On June 21st, after eight days of treatment, the eye was examined. The retina was found to be entirely reattached, the visual field perfect, and the vision $\frac{20}{70}$+. Ten days later she was discharged with $\frac{20}{40}$ vision.

September 18th.—Two months and a half later she was seen at the clinic. R. V. = $\frac{20}{20}$ with 8·00; L. V. = $\frac{20}{70}$ with 6·00, with no apparent changes in the retina.

January 15, 1889.—Four months later she returned to the hospital, complaining that two days before, without any cause, the vision of the right eye had suddenly become impaired. R. V. = $\frac{20}{100}$ with 8·00. The ophthalmoscope showed the retina to be detached in the infero-nasal quadrant. She was again admitted to the hospital, put to bed, eyes bandaged, and daily injections of pilocarpine given, which caused, in addition to free perspiration and salivation, nausea and vomiting after each injection.

26th.—Ten days later the bandage was removed, and the visual field seemed perfect when tested with the hand, but, as the retina seemed to be thrown in folds in its reattachment, it was decided to continue the treatment longer.

March 9th.—After seven weeks of treatment the vision was $\frac{20}{30}$ with 8·00. The retina seemed to be firmly reattached, but still showed an irregularity over the seat of the reattachment. The patient was frequently seen at the hospital clinics, and the last observation was made in October, 1890—more than two years after the left eye was cured and eighteen months from last treatment. The vision in the right eye was $\frac{20}{40}$ with 8·00; left eye $= \frac{20}{70}$ with 7·00. If there was any change discoverable with the ophthalmoscope, the retina was smoother over the point of its reattachment in the right eye.

---

* Read before the Section in Ophthalmology and Otology of the New York Academy of Medicine, January 19, 1891.

Case III.—W. R., twenty years of age, came to the hospital July 19, 1884. Eight days before, while at work carrying a hod, he suddenly lost the sight of his right eye. The ophthalmoscope showed extensive detachment of the upper part of the retina; vision was reduced to a perception of objects when moving. Patient was placed in bed, eyes bandaged, pilocarpine given daily until July 26th, when, on examining the eye, the retina was found to be reattached, field perfect, and vision $= \frac{20}{200}$. Refraction emmetropic. This patient was seen at the hospital clinics at intervals for several years, the eye remaining in the same condition.

Case IV.—J. Y., a waiter, twenty-three years of age, came to the hospital April 23, 1887. Ten days previous the sight of the right eye had suddenly become dim, and since then, when he moved, objects on the right side of him seemed to be moving; this annoyed him so much that, though the sight of the other eye was good, he had been compelled to give up his position. He had no pain in his eye, nor did he give any history of traumatism. R. V. $= \frac{20}{200}$. Ophthalmoscope showed detachment of the infero-temporal quadrant of the retina. L. V. $= \frac{20}{30}$ +. Refraction emmetropic. He was admitted to the hospital, placed in bed, eyes bandaged, and a hypodermic injection given of an eighth of a grain of hydrochloride of pilocarpine; this produced no effect. The following day the dose was increased with no effect. The dose was gradually increased until half a grain was given. The patient complained of a fullness of his head, palpitation of the heart, the face and body were flushed after the injections, but at no time was there diaphoresis or salivation. After two weeks' treatment the patient left the hospital in the same condition as when he entered. Vision $= \frac{20}{200}$, and the retina detached to about the same degree.

Case V.—J. A. J., aged twenty-eight years, was admitted to the hospital April 12, 1889. For eight months he had been troubled with dimness of vision in the right eye; this varied from time to time. For a month the sight had been so bad that the eye was useless. R. V. $= \frac{2}{200}$, not improved with glasses. L. V. $= \frac{20}{200} - 5 = \frac{20}{30}$. Ophthalmoscope showed the refraction to be myopic and the retina of the right eye detached in the infero-temporal quadrant. The patient was put to bed, eyes bandaged, and pilocarpine given daily for eight days, when, on examination, it was found the retina was reattached.

He was kept quiet for ten days longer without using any drugs, and on May 3d discharged from the hospital. Retina reattached. Vision $\frac{20}{200}$.

September 10, 1889.—Four months later was examined at the clinic. R. V. $= \frac{7}{200} - 5 = \frac{20}{100}$ +. L. V. $= \frac{20}{200} - 5 = \frac{20}{30}$ +. Ophthalmoscope does not show any changes in the fundus.

Case VI.—M. B., aged fifty, laborer, admitted to the hospital January 24, 1889. Four months previous had first noticed a failure of the sight of his left eye; this had gradually got worse. When he came to the hospital could only see moving objects, while the sight of the right eye was normal. There was no history of traumatism, but the previous winter had a severe inflammation of the lids of his eyes.

An endeavor was made to obtain the visual field, but failed on account of the defective vision. The ophthalmoscope showed a complete detachment of the lower half of the retina. The patient was put to bed, eyes bandaged, and pilocarpine used daily for two weeks, when examination showed partial reattachment. Patient could count fingers, and the perimeter showed a projection extending twenty degrees above the horizontal plane. He was advised to continue treatment, but, being tired of the close confinement, declined, and, refusing to submit to an operation, was discharged.

Case VII.—M. M., twenty-five years of age, came under my care October 8, 1885, at which time she had a triangular wound of the right eyeball just in front of the insertion of the superior rectus muscle, caused by the explosion of a wine bottle. She was treated with rest, cold cloths, and atropine; in two weeks was discharged with the wound healed and the eye in a quiet condition and a vision of $\frac{20}{70}$, the left being normal and both hypermetropic.

On December 22, 1886, she returned to the hospital and informed me that there had been no trouble with the eye until the previous day, when suddenly, without any cause, she lost nearly all the vision. She could count fingers when held above. The ophthalmoscope showed a large detachment of the retina over and below the cicatrix. She was given the usual treatment, and on January 18, 1887, discharged with the retina fully reattached and a vision of $\frac{20}{200}$. In this case each hypodermic injection caused an abscess, some of them leaving deep ulcers as large as a twenty-five-cent piece, which were several months in healing.

The patient was last seen in September. 1890. The retina seemed to be slightly folded over the seat of the wound, but was firmly attached, visual field but slightly impaired above, and the vision improved to $\frac{20}{100}$.

Case VIII.—R. M., forty-five years of age, came to the hospital July 11, 1890. Two weeks before, on closing his right eye, discovered that he could see but little with his left eye. R. V. $= \frac{20}{15}$. L. V. = counts fingers when in lower field. Ophthalmoscope showed extensive detachment below. The patient was put to bed, no compress or bandage being used, and pilocarpine given daily.

July 23d.—Treatment stopped, retina still detached, but the vision slightly improved. L. V. $= \frac{5}{200}$ —.

An operation was advised, but on the patient declining, he was discharged in about the same condition as when admitted.

Case IX.—J. E., fifty-seven years of age, was admitted to the hospital January 13, 1889. He complained of gradual failure of the sight in his left eye for the past five years, but during the past year it had grown rapidly worse. R. V. $= \frac{20}{30}$ +, L. V. $= \frac{3}{200}$. Ophthalmoscope showed the refraction to be hypermetropic in both eyes and a detachment of the retina involving the supero-temporal quadrant. Patient was placed in bed and pilocarpine given daily for one week, and, as there seemed to be some improvement, it was continued for seven days longer. As there was then no appreciable reattachment, the patient was discharged. He has returned to the clinics, and when last seen, some time during the past summer, had only perception of light with his left eye.

Case X.—M. McD., fifty-five years of age, admitted to the hospital December 15, 1888. Ten days before, noticed flashes of light before the left eye, after which the sight became impaired. L. V. = fingers at one foot. The ophthalmoscope showed detachment of the retina above with lenticular and vitreous opacities. The patient was treated by being kept in bed and pilocarpine used for ten days, when, on examination, the retina was found to be reattached, and on January 5, 1889, was discharged with the retina fully reattached and vision $\frac{10}{200}$.

Case XI.—E. B., aged sixty-five years, was admitted to the hospital, April 17, 1890. Her eyesight was good in both eyes until about eighteen months before, when she first began to notice spots before her left eye. Six weeks ago she noticed that she could not see distinctly the upper half of objects, and in a few days could not see the upper half at all.

Five days later she came to the hospital. R. V. = $\frac{20}{200}$: $\frac{20}{30}$ with + 2·50. L. V. = objects at one foot below. Ophthalmoscope showed detachment of lower half of retina. Was placed on her back in bed and daily injections of hydrochloride of pilocarpine given for two weeks. When her eyes were examined the retina was found to be detached all around, though the patient claimed she could see better. L. V. = fingers at one foot on the temporal side.

Case XII.—T. L., aged twenty-nine years, was admitted to the hospital May 8, 1889. The patient discovered three months previous that he could not see with his right eye. R. V. = perception of light. L. V. = $\frac{20}{200}$. He remembers that one year before he had been struck on that eye. The patient was treated for two weeks by rest in bed and injections of pilocarpine, when he was discharged, slightly improved. R. V. = fingers at four inches, the detachment of the retina being complete below.

The following are from the books containing the records of Dr. Agnew's cases:

Case XIII.—C. Q., aged fifty years, admitted to hospital April 30, 1884. Detachment of retina, right eye, R. V. = perception of light. Was placed in bed, eyes bandaged, and hydrochloride of pilocarpine given daily for eight consecutive days, after which he was kept in bed with eyes bandaged. At the end of the first three days the patient could count fingers at six inches. At the end of eight days could count fingers at three feet. On May 12th, two weeks from beginning of treatment, the vision was $\frac{7}{200}$.

Cases XIV and XV.—W. D., aged thirty-five years, admitted to the hospital March 6, 1886. He complained that he had not seen well for some years. One month before he contracted a severe cold, following which his vision became much worse. One night he suddenly became almost blind. Was seen at Dr. Agnew's office two days previous to his admission to the hospital. The diagnosis was made of detachment of both retinæ, and he was advised to go to the hospital for treatment. R. V. = $\frac{1}{200}$. L. V. = $\frac{16}{200}$. He was put to bed, eyes closed with bandages and compress, and pilocarpine given daily.

March 20th.—R. V. = $\frac{5}{200}$. L. V. = $\frac{18}{200}$. Pilocarpine stopped, but still kept in recumbent posture with eyes bandaged. April 10th was discharged. R. V. = $\frac{6}{200}$. L. V. = $\frac{20}{200}$.

December 25, 1890.—Dr. Black, house surgeon of the Manhattan Eye and Ear Hospital, examined him and found complete detachment of left eye with vision = perception of light, and nearly complete detachment of right. R. V. = $\frac{4}{200}$.

Cases XVI and XVII.—J. E. C., March 11, 1888. Patient has complete detachment of the retina of the left eye, which has existed for two years. Yesterday the right retina became detached. Patient is myopic. Was admitted to the hospital March 12th, placed on his back, and pilocarpine given hypodermically.

March 17th.—Complains of floating mists and photopsia.

23d.—Has had pilocarpine daily; has little or no photopsia; some mists on the temporal side of the field. Discharged from the hospital.

26th.—Still some mist before the eye.

Case XVIII.—Mrs. W. P. M., aged forty-two years. Patient has a high degree of myopia. About three weeks ago noticed floating spots before her right eye, and in a few days the vision had become very much obscured. Dr. Agnew saw the patient three weeks before at his office, at which time she said that at first she could only see light, but her sight was improving. R. V. = $\frac{20}{200}$, with 9. Patient was placed in a recumbent position, with eyes bandaged.

February 20th.—Bandage removed to-day for the first time The ophthalmoscope shows the retina to be reattached. R. V. = $\frac{20}{100}$ with − 10. Eye rebandaged and patient put to bed again.

24th.—Patient was again examined; same result.

March 2d.—Patient allowed to sit up, and on March 5th was discharged from the hospital with the retina completely reattached. Vision = $\frac{20}{70}$ with − 10.

The following cases are from Dr. Webster's records:

Case XIX.—E. O. S., twenty-three years of age, admitted to the hospital January 20, 1885, with a detachment of the left retina of several weeks' standing. R. V. $\frac{20}{20}$. L. V. = $\frac{1}{200}$. Patient says she can see better in the evening than she can in the forenoon. She was placed in bed, eyes bandaged, and hydrochloride of pilocarpine given. Nine minims of a solution containing eight grains to the ounce caused vomiting and severe pain in the back.

January 22d.—Six minims caused the same symptoms.

23d.—Four minims produced slight diaphoresis without vomiting.

25th.—As pilocarpine continued to cause vomiting, ten grains of salicylate of sodium were given every half-hour until sweating was induced. Five doses were required to accomplish this.

28th.—Patient says she can see much better, and the perimeter shows a decided improvement; with the ophthalmoscope no detachment can be detected.

February 5th.—Salicylate-of-sodium sweats have been continued daily. L. V. = $\frac{20}{200}$, with + 1·25 = $\frac{20}{70}$.

8th.—Examination showed a detachment had again taken place. The patient was again placed under treatment, and, on February 22d, was discharged with the retina reattached and the vision $\frac{20}{40}$.

April 2d.—Patient reported to the clinic, and, on examination, the vision was found to be $\frac{20}{200}$ — without correcting glass.

Case XX (a patient of Dr. George F. Carey's).—October 17, 1887. A. H., twenty-eight years of age. R. V. = $\frac{2}{200}$. L. V. = $\frac{20}{30}$ +. Four months ago noticed black spots on the lower part of the eye. From that time the field of vision was continually encroached upon.

October 22d.—She came to the hospital, and the diagnosis of detachment of the retina was made. Patient was put to bed, and fifteen grains of salicylate of sodium given at bed time by mouth. No diaphoresis being produced by that dose, the next night twenty-five grains were given; this produced perspiration.

31st.—Has had nightly doses, followed by free sweating. Ophthalmoscope shows no improvement in the condition of the eye. Ordered solution of pilocarpine hydrochloride hypodermically.

November 5th.—Has had five doses of pilocarpine; produced diaphoresis. As the patient was found to be losing her appetite and strength, treatment was discontinued and the patient discharged, with slight improvement of the detachment.

Case XXI.—J. H., aged fifty-four years. September 21, 1888, was admitted to the hospital, at which time the R. V. = $\frac{20}{200}$, the retina being detached on the supero-nasal side, of six weeks' duration. Has no symptoms except dimness of vision. Sight of the left eye lost from traumatic cataract. Was treated by placing him in bed and using hypodermics of pilocarpine, one quarter of a grain producing profuse salivation and diaphoresis, which lasted twelve hours.

September 27th.—Was dressed and sent down to the clinic for examination, but, being chilly and weak, no examination was made.

29th.—The ophthalmoscope showed, and the perimeter substantiated it, that the retina was more extensively detached. Patient discharged without further treatment.

Of the twenty-one cases of detachment reported, nine were in females and twelve in males, the youngest being twenty years of age and the oldest sixty-five. There were six cases in which the refraction was myopic, nine where the refraction was either hypermetropic or emmetropic, and six in which the refraction is not recorded. The duration of the detachment previous to treatment varied from two days to two years. The duration of treatment, one to seven weeks.

Of the twenty-one cases, there were eight in which the retina was reattached with useful vision resulting; of the eight reattached cases there are four that have been under observation more than a year later, and two that have been under observation more than a month, and in all the retina remained reattached, though the vision had markedly deteriorated in some. In six cases the age was between twenty and twenty-eight, and the other two were, respectively, forty-two and fifty-five years. In one case the reattachment was obtained by mechanical treatment without the use of any drugs, and in another case the same result was obtained by keeping the patient in bed, using hypodermics of pilocarpine, but omitting the eye bandages. In the remaining six successful cases the patients were kept in bed and the eyes bandaged, and hydrochloride of pilocarpine used in one field and hydrochloride of pilocarpine and salicylate of sodium in the other. There were three patients in whom both retinæ were detached, and all of them were myopic. One of the three had complete reattachment in both eyes; one was temporarily improved, while in the third there was no improvement.

Of the twenty-one cases, there were nine which were improved, three unimproved, and one in which the condition was worse after treatment. Only one of these cases has been subsequently seen, and in that case the condition was much worse than when first observed.

The hydrochloride of pilocarpine was well borne in most of the cases. In one it caused abscesses in spite of our changing the solution used, and procuring a new hypodermic needle and using thorough cleanliness.

In another case it caused some nausea, but not enough to necessitate its being discontinued, while in a third case it caused so much vomiting and pain that it was discontinued and salicylate of sodium used instead.

In another case the desired effect could not be obtained, though the dose was increased to half a grain.

From a study of the limited number of cases which I have presented, it seems to me there is some encouragement in treating retinal detachment, especially if it occurs in a young subject.

Early Marriages in India.—"The Government of India has decided to legislate on the subject of the age of consent by a simple amendment to the penal code, substituting the age of twelve for that of ten. It has been wisely determined to couple the announcement with the assurance that no interference with social or religious customs affecting early marriage is contemplated, a course which it may be hoped will satisfy those who saw in the suggested reform a covert attack on ancient customs."—*Lancet.*

THE TREATMENT OF RETINAL DETACHMENT BY INJECTIONS OF PILOCARPINE IN THE RECUMBENT POSITION.*

By OREN D. POMEROY, M.D.

The following cases were treated by position and pilocarpine with the exception of one, which was treated by position alone. All but one were benefited by treatment.

Case I.—M. McK., aged forty-four, has traumatic cataract of the left eye from a violent scratch with the finger twenty years since. He came to the hospital on October 22, 1888. Left eye, no perception of light.

About eighteen months ago he first noticed failure of the sight of the right eye which showed itself in one day; sensitive to light for years. Has been obliged to quit work. Enucleation of left eye. Retina detached in right eye; counts fingers at six feet on the temporal side. Field five inches in diameter at a distance of a foot. He was placed on his back in bed, from one fourth to one sixth of a grain of pilocarpine was injected daily, and he was given a tablespoonful of infusion of jaborandi every three hours. These doses were required to be increased, so as to maintain a sufficient degree of salivation and diaphoresis, for six days. The vision was found to be as at first, but the field had doubled in diameter. By the ophthalmoscope the detachment was seen to be much less than at first.

Case II.—Andrew E. D., aged sixty-five, a laborer, applied to the hospital July 12, 1889, for a failure of sight in the right eye which dated back two years. Ophthalmoscopy showed detachment of the retina on the inferonasal quadrant. Vision, perception of light only. He was placed on his back and pilocarpine was injected daily for eleven days, when projection seemed good in all directions, although the ophthalmoscope showed some detachment still. No history of injury; no myopia. V. $\frac{\text{xiii}}{200}$.

Case III.—William F., aged twenty-four, was admitted to the hospital March 26, 1884, with a recent detachment of the retina of the left eye. No myopia. No history of traumatism, although injury was suspected. He was placed on his back and pilocarpine was injected daily. At first there was no effect from the injection, and the dose was increased to fourteen minims of an eight-grain solution. On April 9th the field was limited in the superonasal portion to 50°. The pilocarpine was for a few times injected twice a day, fourteen minims at each injection, but this resulted in so much depression and sleeplessness as to cause its discontinuance. The eye was then bandaged and the patient still remained in bed, not being allowed to get up even to attend to calls of nature.

April 15th.—He was allowed to sit up an hour, as the field had much widened. On April 21st the field by the perimeter was perfect and the vision was $\frac{\text{xx}}{30}$; discharged.

25th.—Returned with a greater amount of detachment than at first; placed on his back and pilocarpine injected. By June 12th the field was nearly perfect; discharged on the 16th, with vision $\frac{\text{xx}}{40}$. This patient soon after returned with new detachment, and was placed under treatment with improvement; and then a relapse occurred, and on August 29th the condition was worse than at first. In all, about twelve charts of the field were made. Treatment discontinued. On January 17, 1890, a soft cataract was needled.

Case IV.—Alexander McG., aged forty-five, admitted to hospital May 9, 1884, with detachment of the retina of the left eye, which extended along the lower periphery. Detached portion may be seen best with + 13 D. The nerve seen, with the detachment extending somewhat above it on either side. Eye is myopic + 1·50 D. The treatment consisted only in keeping the patient in bed on his back for thirteen days. Vision not tested, but the field was found to be nearly normal.

---

* Read before the Section in Ophthalmology and Otology of the New York Academy of Medicine, January 19, 1891.

CASE V.—Charles J., aged thirty-four, applied to the hospital February 20, 1888. On January 1st he struck his left eye against the corner of a door. There was ecchymosis of the lids for ten days. Three weeks after the injury he noticed some diminution of the sight, which from that time rapidly failed. Vision on entering, $\frac{xx}{200}$. He was placed on his back in bed and pilocarpine was injected daily; copious diaphoresis and salivation. On March 2d the field was found doubled in diameter. Three days subsequently the retina was seen to be nearly in position.

Some years since I saw a blacksmith at the hospital who had just been struck on the eye by a solid body, which had caused sudden and complete blindness. He was sent home with the eye bandaged.

The retina was completely detached and only a gray reflex in the pupil, evidently located in the anterior portion of the eye, could be seen. In two days he returned with the retina in position, some floating bodies in the vitreous, and vision $\frac{xx}{40}$.

I have seen a number of cases of retinal detachment which have been treated by position, but, with the excep- of the case here recorded, no success has attended my efforts.

In the treatment relapses occur quite frequently, especially if there is myopia.

Traumatic cases seem to me to do better than others.

The precise pathology of many cases of detachment does not seem to be well understood.

A CASE OF POST-PARTUM ECLAMPSIA, MULTIPLE ATHEROMA, AND DEATH.

By EDWARD P. DAVIS, A. M., M. D.,

PROFESSOR OF OBSTETRICS AND DISEASES OF CHILDREN IN THE PHILADELPHIA POLYCLINIC; CLINICAL LECTURER ON OBSTETRICS IN THE JEFFERSON MEDICAL COLLEGE; VISITING OBSTETRICIAN TO THE PHILADELPHIA HOSPITAL, ETC.

ALTHOUGH eclampsia is not an infrequent occurrence, yet post-partum eclamptic convulsions are sufficiently rare to be of practical interest, and the fact that the case narrated afforded a remarkably complete illustration of the pathology of eclampsia has induced me to present it for publication.

A. D., aged thirty-seven, an Italian, was admitted to the Philadelphia Hospital in the service of the writer, January 24, 1891. But little history could be obtained, it having been ascertained that the patient had been delivered twelve days prior to admission. When she entered the hospital she was in a condition of partial unconsciousness, the surface of the body free from perspiration, the pupils equal, moderately contracted, the tongue furred and coated, and voluntary motions and the reflexes were present in apparently a normal degree. Upon physical examination, the first sound of the heart was deficient in duration and force. Multiple râles were heard over the entire chest. The spleen was enlarged; the abdomen presented no abnormities; on percussion, the uterus could be outlined as slightly larger than a good sized orange, while the genital tract gave evidence of comparatively recent labor. Urine obtained by catheter showed, upon examination, a large percentage of serum albumin. The patient's pulse was 120; her respiration, 42; her temperature, 104° F. Clonic and tonic spasms, such as are commonly known as eclamptic, were occurring at intervals of from fifteen to thirty minutes. These were of moderate severity but well pronounced. A diagnosis of puerperal eclampsia seemed most natural under the circumstances, and treatment was addressed to the relief of this condition. A drop of croton-oil in olive-oil was placed upon the tongue, the patient was given a hypodermic injection of morphine, and chloroform was used to control convulsions. When the writer saw the patient her pulse had risen to 122, her respirations were 42, her temperature was 104·8° F. She was immediately ordered a bath and pack to induce free perspiration. Ten grains of calomel and ten grains of sodium bicarbonate were placed upon the tongue and a successful attempt at deglutition was induced. The vapor bath and pack combined resulted in slight perspiration, and the chloroform controlled the convulsions perfectly. A recto-vaginal fistula was found complicating the patient's condition, and when it was desirable to give rectal injections of whisky and milk it was necessary to introduce a rectal tube for a considerable distance into the bowel. The bath and pack were repeated some four hours after their first administration, when free perspiration followed. Twelve hours after admission involuntary evacuation of urine and fæces occurred. Eighteen hours after admission the patient's temperature had dropped to 102° and the pulse to 116, the respirations being 44. She was unconscious, in stupor. Two hours later her temperature had begun to rise, when she was given a tub-bath at a temperature of 100°, perspiration having stopped. This was followed by a temporary amelioration of her symptoms. About this time it was noticed that loss of motion of the right upper extremity seemed to be present, although the patient's unconscious condition rendered this complication less noticeable than would otherwise have been the case. Efforts were made to combat progressive pulmonary œdema, which was present, by the administration of atropine, digitalis, and caffeine. The bowels moved freely, and considerable urine escaped involuntarily. The patient's temperature sank again to 102°, but rose subsequently to 105°, and death occurred forty-eight hours after admission, in coma.

A post-mortem examination was made eighteen hours after death. The body was that of a fairly-nourished multipara, no external marks of violence or injury being present. Upon opening the thorax, the condition of pulmonary œdema diagnosticated was found to be exceedingly well marked. Both lungs were extensively infiltrated with serum, and the pleural cavities contained a considerable amount of this fluid. Dropsy of the pericardium was also present. The heart was slightly enlarged; a considerable amount of fat was observed upon its external aspect near the base. The heart-muscle was dark in color, showing well-marked fatty degeneration in the vicinity of the auricular septum and origin of the great vessels. Upon examining the endocardium, patches of atheromatous roughening were found near the orifices of the valves and at the beginning of the aorta. The liver showed well-marked fatty degeneration and was slightly enlarged. The spleen was dark in color, friable, breaking down very easily upon pressure. The kidneys showed well-marked fatty degeneration before the stage of large white kidney had been reached. The relation between the medullary portion and the cortex was not especially abnormal, but the parenchyma of the organs showed granular degeneration and cloudy, fatty swelling. The capsule separated from the kidney without especial difficulty; the intestinal tract and retroperitoneal glands contained nothing of pathological moment. Small, multiple, hæmorrhagic infarcts were observed in the mucous membrane of the intestine. The uterus was enlarged; the tubes and ovaries exhibited no pathological condition. Upon opening the uterus, its muscle was found tolerably firm, dark in color, and showing the results of previous pregnancies and parturitions. The endometrium was thickened, very dark in color, friable, presenting a granular appearance. The site of the placenta could be readily distinguished, although no placental fragments were found. Upon opening the skull, œdema of the meninges was found to be present in considerable degree beneath the pia mater near the fissure of Sylvius. In the left cortical portion of the cerebrum an area of apoplexy could be distinguished, irregular in outline, but slightly larger than a silver dollar. Upon opening the brain, a considerable amount of serum was found in the ventricles. In the pia mater, lying upon the surface of the apoplectic area, was a ruptured cerebral vessel whose walls exhibited marked atheromatous change. On cutting through the cerebral hemisphere from above downward the apoplectic area was found to be an extensive infarct or punctiform hæmorrhage involving the motor center for the upper extremity in the left hemisphere of the cerebrum. Punctiform hæmorrhages of less extent were observed in other portions of the brain. The ruptured cerebral vessel could not be traced to its origin, but was probably a branch of the middle cerebral or Sylvian vessel. There was no meningitis, but pronounced œdema of the membranes of the brain. A microscopic examination of the patient's urine obtained at the moment of death revealed fatty degenerated epithelium and granular and waxy casts of great length and perfect contour.

This case illustrates, it seems to me, the fact that puerperal eclampsia is not the result of uterine irritation occasioned by the fœtus or its appendages. It is not dependent upon a lesion of the kidneys only, but is to be considered as the result of that process of deranged nutrition which causes under other conditions the pathological lesions in the circulatory apparatus known as atheroma. Had the case been one of typical acute nephritis of pregnancy, the kidneys only would have been found seriously damaged, but in the present instance the lesions were not only those of the kidney, but of the tissues throughout the entire body. As to the origin of this condition of atheroma, its most rational explanation is that it results from the circulation in the blood of irritating excrementitious matter which, under normal conditions, is removed by the kidneys, intestines, skin, and lungs without damage to the individual. The occurrence of pregnancy and the added strain brought upon the eliminative organs by the metabolism of two beings instead of one, results in failure of elimination and in the retention in the blood of excrementitious material which causes irritative lesions of the endothelium and subsequent injury to the blood-vessels themselves.

The question of treatment resolves itself into efforts to check convulsions, promote prompt and thorough elimination, and support cardiac and respiratory action until the immediate danger can be overcome. To fulfill these indications, the use of chloroform, the employment of colocynth, jalap, elaterium, the use of the steam-bath and hot pack, or the full bath, the administration of alcohol and milk, the employment of caffeine and atropine hypodermically—all are methods of treatment which in my hands have proved successful in other cases. The writer has seen especially happy results follow the administration of diuretic doses of calomel. Ten grains of calomel given with fifteen grains of sodium bicarbonate in a recent case resulted in a secretion of urine averaging two ounces an hour for a period of fifteen hours. A portion of the secretion escaped involuntarily, and hence the exact amount could not be estimated. That which was obtained, however, averaged as has been stated. This administration of calomel has every advantage—that of efficient purgation, and also a beneficial effect upon the stomach in cases where the obstinate vomiting of toxæmia renders the retention of nourishment and stimulants almost impossible.

As to the propriety of bleeding in the present case the writer did not observe indications of an actively engorged circulation which furnish to his mind a rational indication for this method of treatment. It does not seem to him that benefit could have resulted in a case of such general atheroma from the extraction of blood in a patient bearing every mark of profound depression and exhaustion from a process of chronic toxæmia.

It may be of further interest to note that in the case under discussion the endometrium presented those pathological lesions which result so frequently in persistent and alarming post-partum hæmorrhage. The treatment of such hæmorrhage consists in pressure by an intra-uterine antiseptic tampon, as, for example, a strip of iodoform gauze, or in the heroic procedure of inverting the uterus and applying an elastic ligature about its cervix for several hours. Cases are reported where recovery has followed such treatment, the uterus remaining inverted for six hours and being readily replaced at the expiration of that time.

HEREDITY
AS A FACTOR IN RENAL PATHOLOGY.

By JAMES KENNEDY, M. D.,
SAN ANTONIO, TEXAS.

In one of the October (18th) numbers of the *New York Medical Journal*, under the title of The Relation of Gonorrhœa to Renal Disease, I gave the synopsis of a case in which I performed the operation of external urethrotomy for the relief of stricture complicated by cystitis (chronic). The patient died, and post-mortem examination revealed the existence of a chronic suppurative nephritis.

I now have to relate a post-mortem examination of a male infant, the offspring of the patient upon whom I operated. The essentially interesting feature of this post-mortem is, that the only discoverable lesion was a pathological condition of the kidneys.

A brief history of the individual will be necessary in order to make clear the points I have in mind, and will enable you to draw your own inferences as to the possibility of transmission of kidney disease (or, more correctly speaking, diathesis, as I do not believe that the disease was transmitted *per se*) from parent to offspring.

The father, upon whom I operated, died of acute suppression of the function of the kidneys the same day of the operation. The mother, a multipara (had given birth to four children, all of whom were alive and well, the youngest being about three years old), was in her thirty-third week of pregnancy and had always enjoyed good health. Her pregnancy went on to full term and I confined her. Labor terminated naturally, and the infant was apparently in good health. I saw the mother and child as late as the ninth day after confinement, when I discontinued my visits.

On the fifteenth day I was called to see the child, whom the mother had not thought to be well for several days. It was emaciated and slept constantly. These were the only symptoms which I could elicit, and were, of course, totally inadequate as a basis for a diagnosis. The mother said that her milk had "dried up" during the first week, since which time she had been feeding the infant upon "condensed milk." I thought the case was probably one of inanition due to a disorder of the functions of digestion and assimilation occasioned by the unnatural food. I ordered a change to cow's milk, but no improvement followed, and on the seventeenth day it died in convulsions.

As I have already stated, the only discoverable cause of death was found in the kidneys. They were lobular in outline, representing three distinct lobes. Numerous sulci or depressions were found upon their external surfaces. The capsule was adherent, particularly at the sulci, where the lobes joined each other. The gross external appearances indicated a great increase of connective tissue contracting upon the medullary portion. On section, the cortical portion was found very much increased. Minute deposits of uric acid were found here and there, and several small cavities were exposed, from which exuded tiny drops of an opaque fluid. I did not examine the specimens microscopically, but sent them to a pathologist of great distinction, who has up to date neither acknowledged the receipt of the specimens nor sent me the results of his examination.

There is no doubt in my mind that the pathological condition existing in these organs was of prenatal origin.

In undertaking to discuss the question of heredity in its relation to kidney disease, I feel that I am treading upon uncertain ground. Nevertheless, I can not but feel that it is a question worthy of our consideration, and, if a relationship can be established, it may shed some light upon the pathology of convulsions in infants.

Heredity is a class name for a certain group of phenomena which has to do with "like begetting like"; it is a term descriptive of the origin of physical or psychical qualities implying transmission from parent to offspring.

It does not, however, reveal to us the wonderful and complicated processes employed by Nature in fashioning the new being after the old one; it does not make clear to us how, through the various stages of development, the vitalized cell (fecundated ovum) multiplies into its millions and billions of cells, allots to each group their especial work (specialization of function); nor tell us how it is that a certain group (or organ) corresponding to the same group (organ) in the parent, which is diseased, is destined to become the seat of a pathological process at some period during the lifetime of the new individual, as in pulmonary phthisis.

That "the sins of the father"—yea, and of the mother too—do "descend even unto the third and fourth generation," is an incontrovertible truth, as is proved by the many thousands of recorded cases of inherited disease, such as cancer, insanity, scrofula, syphilis, and tuberculosis; the latter disease not being transmitted directly, but the offspring inheriting the diathesis, which often amounts to the same thing in the end.

To my mind it is highly improbable, if not absolutely impossible, for a disease of any special organ to be directly transmitted; in fact, I do not believe that actual disease is ever communicated to the ovum at the moment of impregnation. Nor do I believe it possible for a diseased ovum to become impregnated and progress to maturity.

That the *germs* of disease may be transmitted directly to the ovum seems to be an accepted fact (at least by some), for it is believed that a syphilitic father may inoculate the fœtus without having previously communicated the disease to the mother, while it is quite possible for us to conceive how a *diathesis* may be transmitted.

By diathesis we understand an inherited condition (which may be either local or constitutional) of low resisting power against the particular infection or disease which designates the kind of diathesis.

Starting with the fecundated ovum, which constitutes the physical basis of the future individual, we follow it through its various developmental changes until we reach the stage of cellular differentiation (specialization of function). It is here that we find the birthplace of "diathesis"; it is here that "natural law" decrees that a certain special group of cells, because the corresponding group in the parent is diseased and of low vitality, shall receive a lesser proportional amount of "vitality" than its fellows.

Assuming the truth of this hypothesis, it is easy to conceive how a feebly endowed organ will fail in the proper performance of a normal function. Overstimulation is the first step in the pathological process. Unable to stand an amount of work so greatly in excess of its capacity, death from exhaustion and gradual disintegration of the overworked cells composing the organ necessarily ensues. Both the alpha and omega of degenerative changes which occur in response to the overstimulation may be during the intra-uterine life of the fœtus, or the process may begin before birth and terminate with the life of the individual afterward; and, again, it may not occur until maturity is reached, when environment has occasioned a further diminution in the vital force of the organ.

In the case of the infant upon whom I held the post-mortem the pathological process was begun before birth, and was the cause of its death on the seventeenth day after birth.

It is possible that if post-mortems were more frequently held upon the bodies of infants and young children who die in convulsions, we might find that a diseased kidney was the cause of the convulsion, and perchance discover evidence in support of my theory of heredity being a predisposing cause of kidney disease.

The influence of heredity in pulmonary diseases (phthisis, for instance) is universally recognized; that its influence in diseases of other organs should be equally manifest seems to me a perfectly logical inference.

January 28, 1891.

THE
NEW YORK MEDICAL JOURNAL,
A Weekly Review of Medicine.
Published by D. Appleton & Co.
Edited by Frank P. Foster, M. D.

NEW YORK, SATURDAY, MARCH 21, 1891.

THE RELATIVE FREQUENCY OF HEART DISEASE AT DIFFERENT ALTITUDES ABOVE THE SEA.

Dr. Neonilla Iwanoff, at the suggestion of Professor Vogt, of Berne, has recently made an analysis of the 25,500 cases of death from organic disease of the heart that occurred in Switzerland during the years from 1876 to 1886. The results of her study, together with some comments by Professor Vogt, are given in the *Medicinisch-chirurgische Rundschau* for February 1, 1891.

The first question to be decided was that of whether the inhabitants of the mountain regions suffered more frequently from cardiac affections than dwellers in the low lands. On grouping the various regions of Switzerland according to their altitude above the sea, Dr. Iwanoff found an annual mortality from organic disease of the heart (calculated for 100,000 living) of 102 at the first elevation (from 650 to 1,300 feet above the sea-level), 92 at the second elevation (from 1,300 to 2,275 feet), 82 at the third elevation (from 2,275 to 3,900 feet), and 47 at the fourth elevation (3,900 feet or more). These figures show clearly that the liability to cardiac affections diminishes steadily as the altitude increases. It appeared further that the mortality from heart disease was greater in the cities than in the country. The facts are interesting, especially when we consider that formerly sufferers from organic disease of the heart were cautioned against all active physical exertion. They also seem to sustain Oertel's theory of cardiac therapeutics, which is still so strenuously combated by many writers.

Professor Vogt adds that the comparative immunity from heart disease at the higher levels was especially marked among the agricultural population. In the industrial districts, however, there seemed to be a deviation from the rule. Professor Vogt thinks that this deviation is more apparent than real, and calls attention to the fact that the artisans in the mountain towns are mainly employed in indoor work, such as watchmaking and machine embroidery, whereas in the lower regions they are engaged in the building trades and similar occupations calling for constant movement of the body. This explanation receives support from the results of an investigation of 120,000 recruits for the army, from which it appeared that occupations involving a sedentary life in confined air showed a prevalence of heart disease above the average in almost every instance.

THE TEACHING OF HYGIENE IN THE UNITED STATES.

Mr. Henry C. Lea's recent gift of fifty thousand dollars to the University of Pennsylvania for the erection of a hygienic laboratory directs our attention to the present status of instruction in hygiene in our American medical colleges. The Harvard Medical School has a lecturer in hygiene, but not one of the New York medical schools makes any pretense of giving a course in hygiene. The University of Pennsylvania has a professorship in hygiene, and in Johns Hopkins University there is a course of three months' work in the hygienic laboratory, with lectures and demonstrations comprising chemical and bacteriological investigations of the air, methods of heating and ventilation, chemical and bacteriological investigations of water, investigations as to the healthfulness of building-sites with reference to the vegetation, the soil, and the ground-air and ground-water, the study of ferments and disease-producing micro-organisms, the practical study of the methods of sterilization and disinfection, and the study of foods, clothing, habitations, etc. In many of the medical colleges of this country the announcements state that some member of the faculty lectures on hygiene in addition to his other duties.

Our medical colleges in this particular are in marked contrast with the European schools. In England the Universities of Durham, Cambridge, and London, and Yorkshire College, St. Bartholomew's Hospital, Charing Cross Hospital, Guy's Hospital, and King's College, all give lectures in hygiene; in Scotland, Aberdeen and Glasgow Universities, the Edinburgh School of Medicine, and St. Mungo's College have lecturers in hygiene; in France, the medical schools have chairs of hygiene; and in Germany, the Universities of Berlin, Bonn, Breslau, Erlangen, Freiburg, Giessen, Göttingen, Greifswald, Halle, Heidelberg, Kiel, Königsberg, Jena, Leipsic, Marburg, Munich, Rostock, and Würzburg have excellent professors of this branch of medical science.

The rapid increase in the number of State and municipal boards of health, as well as the medical services of the Government, and the constantly increasing complexity of social life, makes a demand for physicians that are qualified in this subject; and in the every-day practice of the vast majority of physicians a knowledge of hygiene would be of constant use. With the more general adoption of a three years' course of study it will be possible for our colleges to give thorough instruction in hygiene, the teaching to include the causation and prevention of disease; the diseases of animals in relation to the health of man; contagious diseases and the origin and control of epidemics by isolation, quarantine, disinfection, and vaccination; the geographical distribution of diseases in the United States and foreign countries; the influence of climate, season, soil, dwelling, occupation, and food on public health; the effects of unwholesome air, water, and diet on health; the chemical, microscopical, and bacteriological examination of air, water, and food; warming and ventilation; the construction of dwellings; water supply, sewerage, and drainage; vital statistics; the sanitary regulation of lodging-houses, hospitals, and other public establishments; the regulation of offensive, dangerous, or unwholesome trades and occupations; and a comparison of the statutes of the various States relating to public health. Such an outline could be extended as the lecturer desired, embracing all the topics related to the subject under consideration. We hope that it will not be long before the medical schools of New York have chairs of hygiene, and the reorganization of the College of Physicians and Surgeons affords an excellent opportunity for that institution to take the initiative in this important matter.

MINOR PARAGRAPHS.

INSPECTION OF FOOD AND DRUGS IN NEW YORK STATE.

The State Board of Health has lately reported to the Legislature concerning its analytical work of last year, especially in the department of drug adulteration. The examination of medical chemicals and drugs has been actively pursued by two of the analysts of the State. The laws governing the products of milk have placed in the hands of the Dairy Commissioner the supervision of some of the most important food interests. The board of health has on this account temporarily abandoned that field, for, even with the appropriation at its command for analytical work all turned into the single department of drugs, it is none too large for a satisfactory investigation of that class of substances. During the year 1890 there were reports made as to 286 samples of alkaloidal compounds—such as quinine pills and capsules, morphine pills, tablets, etc.; also as to 543 specimens of other kinds of pharmaceutical preparations, the greater part of which were collected from the apothecaries' shops in different sections of the State. About 70 per cent. of the alkaloidal preparations were found passable, while only 54 per cent. of the other preparations could be reported as of good or fair quality. No prosecutions have been entered upon by the board, although such a course may become necessary. The experience of the board has shown that the majority of offenses have been the result of ignorance rather than of fraudulent intention. This seems to have been demonstrated by the obtaining of series of second samples collected during the progress of the work from dealers whose goods had been found of inferior quality at the first inspection. The first notification had generally been heeded. Much good has already been accomplished and there is a growing co-operation on the part of manufacturers and others who at the outset of these investigations, in 1885, evinced an active feeling of hostility to the analysts' supervision.

MASSAGE OF THE STOMACH.

Johann Cseri (*Orvosi Hetilap.*, 1890, No. 93; *Gazzetta degli ospitali*, Dec. 28, 1890) employs massage two or three hours after dinner, when the stomach is full. The patient lies on his back, with the knees bent, and breathing with the mouth open, while the stomach is rubbed and kneaded with the tips of the fingers of both hands, at first gently, then with more force, for about ten minutes. Finally the intestines are treated in a similar manner. The manipulation is not painful or disagreeable. In the beginning, considerable gas is given off by the mouth, which of itself affords much relief to the patient. After the massage there remains a sensation of warmth in the stomach; sometimes there is a feeling of relaxation and drowsiness. Improvement is noticed after a few days of this treatment. The time chosen for the massage corresponds to the physiological processes by which a part of the food passes from the sound stomach into the duodenum. The stimulation of the massage increases the gastric secretion and promotes the peristalsis of the stomach; the passage of the food into the duodenum is also aided by the simple mechanical action; the cardialgic pains cease at once. This method of treatment is indicated in nervous dyspepsias and in atony and dilatation of the stomach, but should not be employed when gastric ulcer or tumors are present.

THYREOIDECTOMY.

At the present time much is being written and said as to the possible results of transplantation of thyreoid tissue and of the extirpation of the gland for the amelioration of certain diseased conditions. In this line of work Tizzoni and Centanni, in the *Archivio per le scienze mediche*, an abstract of which appears in the *Centralblatt für klinische Medicin*, publish an article on the remote effects of thyreoidectomy on dogs. They conclude that extirpation of the thyreoid gland brings about colloid glandular degeneration, that the assumption of the thyreoid function by some other glandular structure is not sufficient to supply the physiological requirements, and that the removal of this gland is always fatal sooner or later.

THE PHILADELPHIA POLYCLINIC.

The Polyclinic Medical Society, composed of the faculty, assistants, pupils, and alumni of the Philadelphia Polyclinic and College for Graduates in Medicine, is undertaking to raise a fund for the endowment of the institution. Those who are eligible to membership and contribute ten dollars will be known as founders; those (not necessarily members) who contribute fifty dollars, as donors; and those (not necessarily members) who contribute five hundred dollars at one time, as benefactors. All these contributors will have their names placed on a brass tablet that is to be put up in some conspicuous place in the new building. The tablet will be unveiled on the 2d of April. We are glad to learn that a number of contributors have already joined in the movement.

MALARIA AS A CAUSE OF SCIATICA.

Dr. C. S. Potts, in the *University Medical Magazine*, reports a case of double sciatica of undoubted malarial origin. The pain was paroxysmal, coming on on alternate days, beginning with a chill, and followed by fever and sweating. The patient was put upon the use of quinine, which caused a rapid amelioration of the symptoms. This case presented two unusual features: First, both sciatic nerves were affected simultaneously, which, while it occasionally occurs, is far from common. Secondly, while malarial poisoning is a well-known cause of neuralgia of the trigeminal and intercostal nerves, most authors give it no place as a cause of sciatica.

THE TREATMENT OF ULCERS OF THE CORNEA.

The dry dressing of Guaita is recommended in the *Revue générale de clinique et de thérapeutique* in the treatment of ulcers of the cornea as being the most prompt in checking the process and in promoting healing, and it is said that its employment leaves the cornea more transparent than any other method. The eye is first washed with a weak corrosive-sublimate solution, the eyes are then closed with a bandage of salol gauze over which is placed an antiseptic wadding, and the whole is fastened firmly, to insure immobility, and allowed to remain for three or four days.

THE STATE BOARD OF MEDICAL EXAMINERS OF NEW JERSEY.

The secretary of the board, Dr. William Perry Watson, informs us that the board's bill repealing the charter of the Medical and Surgical College, of that State, has been passed by the

Legislature and approved by the Governor. This is exceedingly satisfactory, and we believe that Dr. Watson is abundantly warranted in saying, as he does, that during the first year of its existence the board has done something toward purifying the medical profession of the State and, by example, that of other States.

ITEMS, ETC.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported during the two weeks ending March 17, 1891:

DISEASES.	Week ending Mar. 10.		Week ending Mar. 17.	
	Cases.	Deaths.	Cases.	Deaths.
Typhoid fever	14	1	14	4
Scarlet fever	130	17	173	22
Cerebro-spinal meningitis	2	3	5	4
Measles	426	13	393	18
Diphtheria	105	37	88	29
Small-pox	1	0	0	0
Varicella	7	0	9	0

The Reservoir "Air-garden" Project.—At a meeting of the Section in Public Health of the New York Academy of Medicine, held on Wednesday evening, the 18th inst., this subject came up for discussion. Dr. R. H. Derby introduced the following document: A bill has passed the Assembly, and is now before the Senate of this State, which authorizes the construction of an air-garden, with pavilions, a botanical garden, over the reservoir at Forty-second Street and Fifth Avenue. It is also made a part of said bill that the use of said reservoir, as such, shall be continued. No definition, description, or limitation is made as regards the word pavilions; it is in the plural and has been substituted for the words restaurant and music hall in the bill at first submitted to the Assembly, and hence makes it legitimate to suppose that it is the intention of the framers and supporters to have the pavilions for those who will eat and drink and listen to music. The establishment of a garden over the reservoir means the placing there of soil and manure and the subsequent renewal of these, and the continued wetting of both the soil and the plants. The establishment of pavilions of the character described is designed and intended, with the attraction of the gardens, to bring together a large number of people, ever changing, many of whom would have consumption, the early stages of typhoid fever, etc., above this portion of the water supply of New York city. These people will require closets, urinals, and drains, and therewith more or less extensive plumbing will also be required for drains from the flowers, and provision will have to be made for refuse food, etc., if any sort of a restaurant is established. Heat and cold would, by the resulting expansion and contraction, cause cracks in any floor constructed, and thus allow of leakage into the water in the subjacent reservoir. The water stored in the reservoir to be used in case of fire is drawn through the same pipes as supply drinking-water to a considerable portion of the city, and must be discharged through these from time to time or else become stagnant, independent of its use against fire. Therefore be it resolved that we, members of the Academy of Medicine, do most earnestly protest against the enactment of the aforesaid bill, believing that the construction of an air-garden, with pavilions, or botanical gardens, over the reservoir, whose water passes through pipes conveying drinking water to a large number of our citizens, will be followed by disease and death directly traceable to contamination from such air-garden with pavilions. The preambles and resolution were adopted and the matter was referred to the general meeting of the Academy the next evening.

The Bellevue Hospital Training School for Male Nurses.—The first commencement of this school occurred, under very favorable auspices, on the evening of March 11th. There were eighteen men in the class.

The Jefferson Medical College, of Philadelphia.—It is announced that Dr. H. Augustus Wilson has been elected lecturer on orthopædics, in place of Dr. O. H. Allis, resigned.

The Congress of American Physicians and Surgeons.—The secretary makes the following correction of the list of *ex-officio* vice-presidents given in his recent circular, the substance of which we printed last week: As the president of the American Orthopædic Association, Dr. Adoniram B. Judson, instead of Dr. Newton M. Shaffer.

The Jenkins Medical Association, of Yonkers.—The programme for the next meeting, on Thursday evening, the 26th inst., includes the Report of the Section in Obstetrics and a paper on Abortion.

The Long Island College Hospital.—The graduation exercises of this college took place on March 12th at the Brooklyn Academy of Music, with a class numbering eighty-two. Dr. T. G. Thomas delivered an address to the students on the subject of The Possibilities of Medicine. The valedictorian was Dr. Henry T. Hotchkiss. The Dudley gold medals were awarded to Dr. Slee and Dr. Polak.

Naval Intelligence.—*Official List of Changes in the Medical Corps of the United States Navy for the week ending March 7, 1891:*

RUTH, M. L., Surgeon. Granted one month's sick leave.

EVANS, S. G., Assistant Surgeon. Detached from Naval Academy and ordered to the Monongahela.

PRICE, A. F., Surgeon. Ordered to the U. S. Steamer Monongahela.

HARRIS, H. N. T., Assistant Surgeon. Ordered for examination preliminary to promotion.

PICKERELL, GEORGE McC., Assistant Surgeon. Ordered for examination preliminary to promotion.

ANZAL, ERNEST W., Passed Assistant Surgeon. Ordered to the U. S. Steamer Lancaster.

NORTH, JAMES H., JR., Assistant Surgeon. Ordered to the U. S. Steamer Lancaster.

GAINES, JAMES H., Surgeon. Ordered before the Retiring Board, March 12th.

Society Meetings for the Coming Week:

MONDAY, *March 23d:* Medical Society of the County of New York; Boston Society for Medical Improvement; Lawrence, Mass., Medical Club (private); Cambridge, Mass., Society for Medical Improvement; Baltimore Medical Association.

TUESDAY, *March 24th:* New York Academy of Medicine (Section in Laryngology and Rhinology); New York Dermatological Society; Buffalo Obstetrical Society; Medical Society of the County of Lewis (quarterly), N. Y.

WEDNESDAY, *March 25th:* New York Surgical Society; New York Pathological Society; American Microscopical Society of the City of New York; Medical Society of the County of Albany; Auburn, N. Y., City Medical Association; Berkshire, Mass., District Medical Society (Pittsfield).

THURSDAY, *March 26th:* New York Academy of Medicine (Section in Obstetrics and Gynæcology); New York Orthopædic Society; Brooklyn Pathological Society; Roxbury, Mass., Society for Medical Improvement (private).

FRIDAY, *March 27th:* Yorkville Medical Association (private); New York Society of German Physicians; New York Clinical Society (private), Philadelphia Clinical Society; Philadelphia Laryngological Society.

SATURDAY, *March 28th:* New York Medical and Surgical Society (private).

Proceedings of Societies.

NEW YORK ACADEMY OF MEDICINE.

Meeting of February 19, 1891.

The President, Dr. A. L. LOOMIS, in the Chair.

On Operative Surgical Treatment for Aneurysm of the First Two Portions of the Subclavian Artery.—This was the title of a paper by Dr. J. D. BRYANT. He opened his paper with a history of a recent case which had occurred in his own practice, and from which he hoped some useful conclusions might be drawn. Mary D., aged fifty-five, on examination, had shown the existence of an aneurysmal tumor, extending about an inch and a half above the right clavicle, behind and nearer to the outer side of the sterno-cleido-mastoid muscle. From this situation it had extended obliquely downward to the episternal notch, thence behind the sternum, although not pressing against it. Percussion at and around the immediate neighborhood of the right sterno-clavicular articulation had disclosed a marked degree of dullness. There was complaint of constant pain, fullness, and throbbing, which had existed, with varying intensity, for several weeks at the seat of the tumor. The fingers could not be pressed between the tumor and the clavicle or the sternum, on account of the size of the growth. Huskiness of the voice was marked, without the presence of the usual assignable causes of it. There were occasional attacks of nausea, dizziness, and headache, with ringing in the ears and flashes of light. The pulsation of the radial artery of the right side was appreciably weaker than that of the left side. A soft bruit, but no thrill, was present. No difficulty in deglutition or respiration had occurred from direct pressure. From a careful examination by himself and several colleagues, aneurysm of the first portion of the subclavian with involvement of the innominate was deemed to be a discreet and rational diagnosis. The patient was treated tentatively for about a month, producing no appreciable change in the size of the tumor. Prior to operation the patient had a sudden and severe attack of dyspnœa, attended with nausea, vomiting, ringing in the ears, flashes of light, and great cyanosis. It was decided to tie the common carotid and subclavian arteries either simultaneously or with an interval, as might seem proper after ligature of the carotid. Accordingly, the common carotid was tied immediately above the omo-hyoid. Slight loss of power of the right side of the face, unnatural dilatation of the right pupil, and dizziness were the only important cerebral manifestations of circulatory interference that followed the ligaturing; all of these had disappeared within the first week after the operation. During this time it was noticed that all evidences of the previous long-continued hoarseness had disappeared, that the patient's sensations of pain and fullness and throbbing at the seat of the tumor were no longer complained of, and that the tumor appeared to be smaller and firmer. Twenty days after the ligature of the carotid the tumor had disappeared almost entirely from behind the posterior border of the sterno-cleido-mastoid, and, without extending higher, had advanced toward the median line of the neck, entering further into the carotid triangle. Four weeks after ligature of the carotid the subclavian artery was tied in the third portion. Nothing unusual followed as the immediate result of this operation. On the eleventh day, while the tumor was being examined, the patient complained of a severe pain in the right side of the head, which was followed quickly by nausea, vomiting, and well-marked ptosis of the right eye, together with right myosis. The respirations became hurried, attended with moist râles, and on the thirteenth day the patient died. A post-mortem examination showed the aorta to be the seat of very extensive chronic deforming endarteritis. This process was more marked in the thoracic and abdominal aorta than in the arch. There was a dilatation of the ascending and transverse portions of the aortic arch along its convex surface. The innominate was also considerably dilated, especially near its origin. There was a firm thrombus in the right common carotid situated an inch and a quarter from its origin. Surrounding the third portion of the right subclavian artery was a heavy catgut ligature, and on either side of this was a firm thrombus. In the right vertebral artery, half an inch from its termination in the basilar, was a thrombus which completely obstructed the vessel. Beginning in the lower part of the floor of the fourth ventricle on the right side was an area of softening that had extended upward nearly through the pons. In the right hemisphere of the cerebellum there was also a large area of softening, which had involved nearly the whole of the center of the hemisphere. The arteries of the circle of Willis and its branches presented the lesions of an advanced endarteritis. Fibrinous deposit had not taken place within the aneurysm at any portion of its surface. These facts seemed to point to a statement previously made, that a correct diagnosis of the location of an aneurysmal tumor at the root of the neck was an impossibility except in special cases. There was no doubt that the immediate cause of death was the brain softening which followed thrombosis of the vertebral artery. In dealing with this subject the speaker considered the question as to the better plan of procedure in aneurysmal growths, ligature of the innominate artery or distal ligature of the common carotid and subclavian arteries, either simultaneously or consecutively. Precautionary treatment might be said to include regulation in dietetic and physical matters. The operative expedients that might be employed that could exercise a rational and reasonably safe influence in contributing to cure in either the distal or proximal methods of ligature were few indeed, and could not as yet be given an undisputed prominence. He considered but two at length; those were galvano-puncture and the recent method advanced by Macewen. The introduction of metallic substances into the sac offered but little hope of cure; still, whether or not the employment of the electrical current at the same time would not prove beneficial, remained to be determined. The method of Macewen, as set forth by himself, was deserving of special attention, inasmuch as this expedient could be employed with possibly equal advantage in connection with both the distal and proximal ligaturing of the subclavian for aneurysm. The endeavor was to stimulate the efforts of Nature in the production of the consecutive layers of fibrin that characterized Nature's cure. For this purpose a strong, round pin of sufficient length to traverse the dimensions of the aneurysm was used. It was pushed into the aneurysm and carried to the opposite surface of the sac and no farther. The end was then caused to irritate this surface by manipulations of the operator or by movements caused by the blood-current—by the former agency if the wall was thick, by the latter if it was thin. Ten minutes' application at one point appeared to be sufficient for this purpose; then the direction might be changed again and again, and the process repeated until the entire internal surface had been acted upon. As yet the speaker had no personal knowledge of the employment of this method, but he had no hesitancy in using a measure bearing the approval of so able a teacher as Macewen, especially when emphasized by the results he had thus far secured by its use. After detailing the histories and treatment of Macewen's cases, the speaker said that, if these successes could be duplicated in similar cases, then indeed a new and valuable expedient of treatment had been presented for the relief of the unfortunate. He thought that the least gained by the so-called medical treatment of subclavian aneurysm emphatically taught that its employment should precede all other methods, for the lease of life following distal ligature of the subclavian and carotid arteries for the cure of aneurysm of the first two portions of the subclavian could not as yet be estimated, because of the paucity of such cases of undoubted diagnosis. The lease of life following ligature of the innominate alone for subclavian aneurysm did not justify the operation. But ligature of the innominate when supplemented with simultaneous and consecutive ligature of the associated contiguous arteries, or by other expedients equally well intended to aid the cure, was worthy of favorable consideration. The lease of life gained by the pin-irritation method of Macewen and galvano-puncture with its associated treatment warranted a strong belief in the special benefits of these expedients when employed singly or with ligaturing.

Dr. J. A. Wyeth said that the most enthusiastic surgical operator would admit, from the synopsis of cases given by the author of the paper and from careful study of the statistics, that deligation on the cardiac side for the cure of aneurysm of the first and second portions of the subclavian artery was fraught with the gravest danger, while deligation on the distal side of an aneurysm, either of the carotid, or of the subclavian, or of the axillary artery, or of both, must also be considered a dangerous procedure. The study of these cases would show that death had followed in every instance in which the innominate artery had been tied for aneurysm, and that death had occurred soon after, and as a direct result of, the operation, except in one instance, and in this, although the life of the patient was prolonged for about eight years, death had eventually resulted from rupture of the aneurysmal sac, the patient bleeding to death from the collateral circulation. Although it did not appear in the paper of the evening, it was a fact that in every single instance in which the subclavian had been tied in its first surgical division, death had followed as a result of the operation. It was also proper to state that all deligations of the subclavian artery in its first surgical division had been on the right side, with the exception of the case by Rogers, of New York, who had tied the left subclavian in its first surgical division. It seemed to the speaker that it was a procedure of doubtful propriety to undertake deligation on the cardiac side for the cure of aneurysm of this part of the artery until every other means of effecting a cure had been exhausted. Looking over the list of the operations which had been done on the distal side of the aneurysms, it would appear, from the notes at the speaker's disposal, that the axillary artery had been tied for the cure of aneurysm in the subclavian in the part in question three times, and that death had followed soon after each operation. One of the patients had died from syncope on the eighth day, another from hæmorrhage on the twelfth day, and a third soon after the operation, the cause of death not being given. The right carotid had been tied five times for aneurysm in this position, and death had occurred in every instance. In two other cases in which the carotid and subclavian had both been tied death had taken place, in one on the twenty first day and in the other in three months, from pneumonia. In twenty-two cases of subclavian aneurysm in which no treatment was undertaken there were four spontaneous cures and eighteen deaths. In the eighteen fatal cases, three patients had died of other diseases than the aneurysm. Of thirteen cases in which the duration of life was noted after recognition of the aneurysm, the sum total was forty-seven years and nine months. In fourteen cases treated by the method of Valsalva, with some slight modifications in some instances, seven patients were cured and five died; and two others were improved when lost sight of. The speaker had the histories of seven patients—five treated by direct pressure, four of whom were cured and one died, and in addition he had treated one patient who had been discharged cured of an aneurysm of the subclavian on the right side, the cure having been effected by direct pressure lasting through three months. He had been called in consultation in another case by Dr. Tuttle, and in this direct pressure was tried, and the patient was discharged cured at the end of four months, and had remained cured twelve months, up to the present date, after treatment had ceased. It seemed to the speaker that with the knowledge of these facts these aneurysms ought to be treated by direct pressure when possible, such treatment being combined with quiet in bed and the treatment known as that of Tuffnell. Operative interference should only be undertaken when all other measures had failed or when the danger from hæmorrhage was imminent, and it could be controlled by ligating the artery.

Dr. L. A. Stimson thought that the difficulty of making a diagnosis in these cases was often a stumbling-block. If the aneurysm was not of the subclavian, treatment by the method of direct pressure or by the internal method would be equally unavailing. He did not know much about the distal ligature of aneurysms at the root of the neck, but his impression was quite clear that the result of ligature on the distal side in aneurysms of the innominate and subclavian was far from bad. In one case with which he had personally had to do the patient had lived twenty-one months and had then died of phthisis. The idea propounded by Macewen was not a new one. The introduction of eight or ten needles with their points crossed, thus favoring the formation of clot, had already been reported with certain good results. He should be a little afraid of scratching the wall of an aneurysm.

Dr. E. G. Janeway, in a communication read by Dr. Bull, said that, so far as his experience went, there was no better medical treatment of these aneurysms than by a modification of the Tuffnell method, not adopting so great stringency of diet as he employed. Medicines were of service for two purposes: First to quiet the heart's action, and secondly to further if possible the formation of coagulation in the sac. Morphine was not only useful for allaying the pain, but it was also at times the only agent which would with the least injury quiet a rapidly acting heart. He had given the preference to aconite or gelsemium as cardiac sedatives in cases of aneurysm. Digitalis, by increasing tension, was likely to do harm. Iodide of potassium, continued in considerable doses, he believed to have some efficacy in promoting coagulation in the sac. Absolute rest for months should be a part of all the medical treatment. Special cases might need some medication for symptoms, such as anæmia. The bowels were apt to become constipated as a result of the rest and diet and the use of opiates. The straining necessitated by the constipation would nullify the good done by the rest and treatment; therefore the state of the bowels should be carefully inquired into and existing constipation relieved.

Dr. F. H. Markoe thought that one of the chief dangers of operative interference in these aneurysm cases was from hæmorrhage through the collateral circulation, and anything which effectually guarded against this occurrence was a long stride in the treatment of these conditions. He advocated, as one of the best methods of securing freedom from these hæmorrhages, the ligaturing of the vertebral arteries.

Dr. Bryant said he was aware that the tying of the vertebrals was not attended with any very great danger except in aged persons or where there existed structural changes in the vessels. It was, however, a question whether the posterior communicating arteries had not as much to do with the collateral circulation as the vertebrals.

SECTION IN OBSTETRICS AND GYNÆCOLOGY.

Meeting of January 22, 1891.

Dr. E. H. Grandin in the Chair.

Ectopic Pregnancy.—Dr. H. J. Boldt exhibited a tube which he had that day removed from a woman in whom he had previously diagnosticated ectopic pregnancy. The patient had been suddenly taken with severe symptoms of collapse, and an immediate operation was called for. On opening the abdomen, the cavity was found filled with blood, and further investigation disclosing a ruptured tube, which was at once removed. The patient's condition prevented any further search for the fœtus, which, the speaker was convinced, had escaped into the abdominal cavity.

Rapid Malignant Degeneration of the Ovary.—Dr. A. F. Currier related the history of a case which presented some peculiar features. The patient, a woman twenty-six years of age, of good general health and of fine physique, but a great sufferer from dysmenorrhœa, had been treated by the speaker in every possible way for the relief of this condition, but without avail. Laparotomy was finally performed, and a small ovarian cyst was found. This was evacuated and the diseased tissues were excised. The patient recovered promptly, and was apparently cured, when, in about a month, she began to decline in spirits and general health, and her old trouble returning to such an extent that a second operation was done to discover the cause of this change, if possible. The pelvis was found to be filled with a solid mass of adhesions; as there had been no inflammatory trouble, this condition seemed strange. The remaining ovary was found diseased, and examination showed the degeneration to be malignant. The speaker thought it curious that such malignant degeneration could take place so rapidly in an otherwise healthy person.

The Chairman suggested that the condition might have been brought on by infection or irritation.

Under what Condition can Electricity be of Positive Service to the Gynæcologist?—Dr. Currier read a paper with this title. He considered the subject under three headings. Under the first he referred to the various apparatuses, and stated which he thought the best and simplest for the purpose of applying electricity. For the faradaic battery Gaiffe's was to be preferred, as being always in order, cleanly, and costing but a few dollars. For the galvanic battery, a number of large cells in continuous connection, either the Law or the Leclanché cell, would fill all of the requirements. Under the second heading the indications for electrical treatment were fully elucidated, and, lastly, the cautions, contra-indications, and objections to its use.

The Treatment of Menorrhagia and Metrorrhagia by the Chemical Galvano-caustic Action of the Positive Pole.—A paper by Dr. A. H. Goelet, who was absent, was then read. The author said that, in adopting any line of treatment, much depended upon the associated condition as to how active it might be, and this applied to the use of galvanism, for the strength of current which it was safe to use depended much upon the pathological state of the uterus and the surrounding tissues. Thus, when it was associated with a circumuterine inflammation, we must proceed cautiously and feel the way to the higher currents, which were sometimes necessary to control the bleeding, never using more than from thirty to fifty milliampères at the commencement, or until the inflammatory condition had subsided. For controlling uterine hæmorrhage the peculiar hæmostatic action of the positive pole was taken advantage of, and to produce a permanent result a decided caustic action must be obtained. The author used an antiseptic douche of creolin solution before and after each intra uterine application. If the subsequent behavior of a case demanded it, cauterization might be repeated every three days until the bleeding had entirely stopped. It was advisable to continue weekly applications with the platinum sound until one or more normal menstruations had passed, to make sure of the result, unless the causative condition demanded other treatment which would interfere. When the action of the negative pole was called for in treating the primary disease after the hæmorrhage was controlled, it could be used without risk of provoking its return. When hæmorrhage followed abortion, the curette should always be used first to remove all retained *débris*, and positive cauterization might be permissible if the hæmorrhage was persistent. This remedy had proved efficient in submucous fibroids, where their removal was not possible.

Dr. G. Betton Massey, of Philadelphia, regretted that Dr. Currier had not been more explicit in stating when he would or would not use electricity within the uterus. For his part, he made it a practice never to use it in this manner unless it was positively necessary. He also noticed that Dr. Currier favored small rather than large doses of electricity. It was the speaker's practice to make use of the alternating currents oftener than was evidently done by other gynæcologists. This was effected without shock, which was avoided by gradual alternation of the currents—first the positive and then the negative. Since he was making more use of electricity he was becoming more favorable to the intra-uterine puncture, as he had now done quite a number of operations and had no bad results. He had used great care in having a needle that was insulated up to the tip, this preventing any action of the cautery on the tissues along the track of the needle.

Dr. J. H. Gunning was in favor of small dosage in using electricity. He said that it was not possible to tell what amount of tissue was being destroyed when such large doses as one hundred to one hundred and fifty milliampères were being used. He thought the flexible bipolar electrode was to be preferred to any other, as it would adapt itself to any canal. A five-milliampère galvanic current continued for five minutes would remove all the tissue necessary, if dilatation and curetting had been done first—a rule that the speaker always observed.

Dr. H. J. Boldt said that a considerable experience with electricity had led him to the conclusion that moderation in dosage ought to be practiced. He had had good results in relieving pain caused by small, hard masses and bands in the pelvis, and also in the pain of oophoritis, with the positive current. In chronic endometritis he had also had good results. But in fibroids, while some of the symptoms might be relieved, the tumor could not be cured, and there was always a risk of setting up destructive changes, absolute sloughing of the whole mass—a condition which then required operation and altogether a dangerous state of affairs for the patients. He made it a rule not to touch cases of fibroids with electricity, as, whenever he had, an operation had finally had to be resorted to. He also thought electricity dangerous in suppurative conditions, and it was always to be avoided where pus was suspected. Twenty to thirty milliampères was the largest dose of electricity that ever ought to be used.

Dr. W. Gill Wylie had made quite a study of Apostoli's methods, but had not been able to do much with them. He thought that the advances in gynæcology had been due to good surgery, and that, when practiced in the right way, the results would be better than with any other method. Subacute and chronic endometritis could be cured if good drainage could be secured. If these methods were carried out there would be no place for electricity in this branch of the work. He was confident that electricity could stop hæmorrhage, but it did this by practically destroying the tissues, a condition he considered objectionable. In fibroids, treated by large doses according to Apostoli, the speaker had seen a number where sloughing had taken place, with serious septic symptoms, requiring laparotomy finally. He did not want to say that there was nothing in electricity, but that the remedy was being used to the exclusion of more scientific methods—namely, those of good surgery. He thought that the treatment of uncomplicated fibroids was just where it was before the introduction of the electrical treatment. The speaker did not hesitate to remove a solid tumor any more than a fluid one.

Dr. P. F. Chambers had used electricity in the treatment of fibroids, but could not say that he had ever seen any marked improvement; on the whole, his results had not been good.

Dr. G. M. Edebohls had tested the electrical treatment alongside of the surgical, and had arrived at about the same conclusions as Dr. Currier—that in minor cases electricity was to be preferred, and that in small doses. He thought that in a number of conditions electricity offered the same advantages as other remedies, but that it certainly ought not to be used by the general practitioner, particularly in the larger doses. He had also seen a number of accidents from the use of currents of high intensities. While these things had not prejudiced him against the remedy, he now used it with great care.

Dr. J. R. Goffe thought that great discrimination ought to be made in the selection of cases in which to use the electricity, and that there was probably some good to be got out of it if properly understood.

Dr. F. Krug said that as for electricity in fibroids he had given it up altogether. He thought that the general impression that electricity never killed and that only the laparotomies did so, should be got rid of, for, if many of the cases carelessly treated could be followed up, a surprising number of the patients would be found either to have died from septicæmia or to have resorted to operations to get rid of the sloughing mass.

Dr. H. N. Vineberg had studied Apostoli's method under that gentleman's observation, and was of the opinion that the lack of good results here was due to faulty technique.

Dr. McLean was very glad to have heard both sides of this much-agitated question, and, for one, was of the opinion that Dr. Wylie had struck the key-note of successful gynæcological treatment. He had used electricity quite a good deal, but was confident that better results would be obtained when good surgical principles were carried out.

Dr. William J. Morton thought that electricity as a remedial agent should not be caused to suffer discredit by reason of its very excess of power. The agent which various gentlemen had described as producing cauterization and other forms of total destruction of a mass of tissue he thought ought not to be understood as medical electricity, but rather as electro-surgery, for the same effects could be also obtained with the Paquelin cautery or any hot metal, and the result upon the tissue was not that of electricity, but of heat. So also in the electrolytic destruction of tissue the disintegrating polar effects alluded to were purely chemical, the effective chemical reagents being produced at the electrodes out of the watery, saline, and other constituents of the tissues. But the same disintegrating effects could be obtained with caustic potash, acids, and a variety of destructive drugs. This, again, was surgery. What he meant when he spoke of electricity in a medical sense was an agent that would produce definite changes in tissues without gross destruction due to heat or chemical action, and, when applied with a knowledge both of the pathological condition and of the actions of the currents, could be made to produce beneficial results. These results were familiar and need not be enumerated. Of the galvanic and faradaic currents it was not necessary to speak, for, as a rule, they were pretty well understood; but as regarded static electricity, he thought that great strides would be made with it in electro-gynæcology. He had discovered a new current evocable from a Holtz machine, which could be used with the usual connecting wires and electrodes and be put to exactly the same lines of treatment as were being pursued with galvanic and faradaic applications. He was satisfied by experience that this current offered to the gynæcologist much better results in certain directions than either of the others.

The Chairman said he was not surprised that the electricians and the laparotomists could not agree. He was sure that electricity had limited the field of the laparotomist, and that the mortality in gynæcological work was not so high as it used to be. He thought that the great trouble with electricians was that they had alleged too much for their remedy, but that as an addition to the auxiliary methods it ranked with others. He was satisfied that small dosage would offer better results than when high intensities were used.

Book Notices.

Text-book of Hygiene. A Comprehensive Treatise on the Principles and Practice of Preventive Medicine from an American Standpoint. By George H. Rohé, M. D., Professor of Obstetrics and Hygiene in the College of Physicians and Surgeons, Baltimore. Second Edition, thoroughly revised and largely rewritten, with many Illustrations and Valuable Tables. Philadelphia: F. A. Davis, 1890. Pp. x to 421. [Price, $2.50.]

The growing science of hygiene, dealing as it does with public health, has a constantly increasing literature. Every new book on the subject is received with expectation as a possible guide to simple methods that will insure the sanitation of cities, homes, shops, and factories. Every-day hygiene is a subject in which the public at large interests itself at the present time, and any suggestion at once novel and of sound practical sense is sure to be well received. In Dr. Rohé's book certain things are new, to wit: extracts from publications by various State boards of health and Dr. Walter Wyman's important chapter on quarantine. Other portions of the work, which in itself contains many facts covering a wide range, leave much to be desired in the matter of form and arrangement. Important subjects—like clothing, vital statistics, the disposal of the dead, etc.—are treated of in a scant and inadequate fashion. This text-book is too large for a manual and too small to serve as a complete treatise. It is chiefly valuable as a landmark. It points the way and brings into notice what there is in literature of value to the student of sanitary science.

Manual of Clinical Diagnosis. By Dr. Otto Seifert, Privatdocent in Würzburg, and Dr. Friedrich Müller, Assistant der 11. med. Klinik in Berlin. Translated from the Fifth German Edition, enlarged and revised, with the permission of the Authors, by William Buckingham Canfield, A. M., M. D. (Berlin), Member of the Medical and Chirurgical Faculty of Maryland. Second English Edition, revised and enlarged. With Fifty Illustrations and One Colored Plate. New York: G. P. Putnam's Sons, 1890. Pp. xi–185. [Price, $1.50.]

This valuable little compendium has been so successful as to run through several editions in Germany, and bids fair to do the same in this country. It has the merit of compactness and lucidity, and the translation is very creditable.

A Guide to the Practical Examination of Urine. For the Use of Physicians and Students. By James Tyson, M. D., etc. Seventh Edition. Revised and corrected. With a Colored Plate and Wood Engravings. Philadelphia: P. Blakiston, Son, & Co., 1891. Pp. x–13 to 255.

The popularity of this hand-book is indicated by its having passed through six editions. This seventh differs from the previous editions in some minor details only. We know of no more useful guide to the examination of the urine for the general practitioner or medical student than this of Dr. Tyson's.

A Treatise on Neuralgia. By E. P. Hurd, M. D., Newburyport, Mass. Detroit: George S. Davis, 1890. Pp. 153. [The Physician's Leisure Library.]

This is a conscientious review of the different opinions held concerning the ætiology and nature of neuralgia, together with a description of its multiple forms—variable as its topography—and of the various prophylactic, therapeutic, surgical, and hygienic measures to be adopted either to prevent its reoccurrence or to effect its cure.

BOOKS AND PAMPHLETS RECEIVED.

Diseases of the Digestive Organs in Infancy and Childhood, with Chapters on the Investigation of Disease, the Diet and General Management of Children, and Massage in Pædiatrics. By Louis Starr, M. D., late Clinical Professor of Diseases of Children in the Hospital of the University of Pennsylvania. Second Edition. Illustrated. Philadelphia: P. Blakiston, Son, & Co., 1891. Pp. xi–17 to 396.

A Compend of Gynæcology. By Henry Morris, M. D., late Demonstrator of Obstetrics and Diseases of Women and Children in the Jefferson Medical College, Philadelphia, etc. With Forty-five Illustrations. Philadelphia: P. Blakiston, Son, & Co., 1891. Pp. xii–9 to 178. [Quiz Compends, No. 7.]

Aphorisms in Applied Anatomy (or Anatomy for the Final Examination) and Operative Surgery, including 100 Typical *viva voce* Questions on Surface Marking, etc. Being Notes of Demonstrations to his Surgery Class. By Thomas Cooke, B. A., B. C., M. D. (Paris), F. R. C. S. Eng. London and New York: Longmans, Green, & Co., 1891. Pp. x–13 to 173. [Price, $1.25.]

The Barbarity of Circumcision as a Remedy for Congenital Abnormity. By Herbert Snow, M. D. Lond., etc., Surgeon to the Cancer Hospital. London: J. & A. Churchill, 1890. Pp. 57.

Hypnotisme et croyances anciennes. Par le Dr. L. R. Regnier, Ancien interne des hôpitaux, etc. Paris: Lecrosnier et Babé, 1891. Pp. xxiii–221. [Publications du *Progrès médical.*]

Oftalmología Estadística; Observaciones Clínicas. Notas Fisiológicas. Estado del Órgano en las Afecciones Oculales. Terapéutica. Por el Dr. Enrique Lopez, Oculista del Hospital Mercedes. Habana: Ruiz y Hermano, 1890. Pp. xiii–282.

Transactions of the American Association of Obstetricians and Gynæcologists. Vol. III. For the Year 1890.

Transactions of the Medical Society of North Carolina. Thirty-seventh Annual Session, Oxford, N. C., 1890.

Transactions of the American Ophthalmological Society. Twenty-sixth Annual Meeting. Vol. V, 1888–'90.

Thirty-ninth Annual Report of the Directors of the New York Ophthalmic Hospital. For the Year ending September 30, 1890.

Purpura Hæmorrhagica. By George Roe Lockwood, M. D., New York. [Reprinted from the *Medical Record.*]

The Surgical Treatment of Erysipelas; a Successful Case in an Infant. By Dillon Brown, M. D., New York. [Reprinted from the *Archives of Pædiatrics.*]

The Construction of O'Dwyer Tubes, with a Report of Three Hundred and Fifty Cases of Intubation of the Larynx. By Dillon Brown, M. D., New York. [Reprinted from the *Archives of Pædiatrics.*]

Rupture of the Membrana Tympani by Injection of Warm Water into the Auditory Canal for the Removal of Impacted Cerumen. By S. Latimer Phillips, M. D., of Savannah, Ga.

Annual Report of the Health Department of the City of Baltimore to the Mayor and Council of Baltimore for the Fiscal Year ending December 31, 1890.

Nephrorrhaphy. By William W. Keen, M. D., Philadelphia. [Reprinted from the *Annals of Surgery.*]

A New Operation for Spasmodic Wryneck. By W. W. Keen, M. D., Philadelphia. [Reprinted from the *Annals of Surgery.*]

An Inquiry into a Characteristic Organism of Diphtheria. By Jabez Hogg, Consulting Surgeon to the Royal Westminster Ophthalmic Hospital. [Reprinted from the *Medical Press and Circular.*]

A Search for a Characteristic Organism of Cancer. By Jabez Hogg, etc. [Reprinted from the *Medical Press and Circular.*]

Twentieth Annual Report of St. Catherine's Hospital, Brooklyn, E. D. December 1, 1889, to November 30, 1890.

Report of the Fifth Annual Meeting of the Association of Executive Health Officers of Ontario. Held at Owen Sound, August 19, 20, and 21, 1890.

Twenty-second Annual Report of the Trustees of the Willard State Hospital. For the Year 1890.

Eighth Annual Report of the New York Skin and Cancer Hospital.

Annual Report of the Directors of the Montefiore Home for Chronic Invalids. November, 1890.

Fifteenth Annual Report of the Board of Managers of the N. Y. S. Reformatory at Elmira. For the Year ending September 30, 1890.

The Middlesex Hospital. Reports of the Medical, Surgical, and Pathological Registrars for the Year 1889.

La sanità pubblica. Conferenza popolare tenuta ai Signori Sindaci ed ai Signori Sacerdoti del circondario di clasone il 9 settembre, 1890, dal Dott. Carlo Ruata.

Las Inyecciones de Koch. Por el Doctor D. Gaspar Gordillo Lozano, etc. Madrid.

Amygdalotomie et hémorrhagie. Par le Docteur E. J. Moure. (Communication faite en partie à la Société de chirurgie de Paris.)

Transactions of the Medical Association of the State of Missouri at its Thirty-third Annual Session, held at Excelsior Springs, Mo., May 6, 1890.

Transactions of the Colorado State Medical Society, Twentieth Annual Convention, June, 1890.

Sixth Annual Report of the Library Committee of the New York State Medical Association.

New York Academy of Medicine. Charter, Constitution and By-laws, List of Fellows, and Current Medical Periodicals on File in the Library. 1891.

Seventy-seventh Annual Report of the Trustees of the Massachusetts General Hospital and McLean Asylum, 1890.

Reports on the Progress of Medicine.

OPHTHALMOLOGY.

By CHARLES STEDMAN BULL, A. M., M. D.

Obstructed Retinal Circulation.—Morton (*Ophth. Rev.*, March, 1890) reports a number of interesting cases. In the *first* case there had been repeated paroxysmal failure of sight in one eye, accompanied by migraine. After the loss of sight in this eye, during one of these attacks, the paroxysmal failure began in the other eye. There was no valvular disease of the heart. In the *second* case there had also been previous paroxysmal partial failure of vision in the affected eye before the sight was irrecoverably lost. The urine was of low specific gravity and albuminous. The heart was hypertrophied, with aortic regurgitation, and there was high arterial tension, and probably atheromatous degeneration of the aorta. In the *third* case there was no history of previous failure of sight. The urine was not albuminous, and, though the heart was slightly hypertrophied, there was no valvular murmur. There was high arterial tension, and probably atheromatous degeneration of the aorta. The *first* case indicated some vascular disturbance in the retina itself, as the failure of sight advanced from above downward.

Paralysis of Ocular Muscles in Congenital Syphilis.—Lawford (*Ophth. Rev.*, April, 1890) reports two cases, in neither of which was there any other likely cause for the paralysis, and in both patients congenital syphilis was almost a certainty. The paralysis in both was probably due to peripheral nerve disease. In the second case the lesion was situated either at or immediately anterior to the sphenoidal fissure, and was probably a periostitis, in which the nerve trunks became involved. In the first case only some of the branches of the left third nerve were at first affected, and the weakness exhibited by the different muscles was unequal in degree. The apparent partial loss of power in the right internal rectus must be explained by another lesion, or by a pre-existing weakness of this muscle. In favor of a double lesion was the patient's statement that she had had bilateral supra-orbital pain before the paralysis came on.

A New Test for Heterophoria.—Maddox (*Ophth. Rev.*, May, 1890) describes a new test, the principle of which depends on the property of transparent cylinders to cause apparent elongation of any object viewed through them, so that in looking at a distant flame with a glass rod before one eye, it appears converted into a long, thin line of light, so dissimilar from the flame itself, as seen at the same time by the other naked eye, that there remains practically no desire to unite the two images, whose relative position indicates the conditions of equilibrium in the two eyes. Care must be taken that the rod covers the entire pupil, so that the flame is not seen by the same eye as that which sees the line of light. The difficulty of always insuring this in practice makes a little accessory to the rod almost indispensable. It consists of a disc of thin metal or card-board, which is most conveniently made of a size to fit into any ordinary trial frame, and punched out with a rectangular slit in the center about half an inch long, and slightly narrower than the rod, which is fixed close to the slit or in it. To permit of free rotation in a trial frame, the rod should be so short as not to reach quite to the edges of the disc. To test for heterophoria, stand the patient at six metres from a small flame, and place the rod horizontally before one eye, and a colored glass before the other. If the line passes through the flame, there is orthophoria as far as the horizontal movements of the eye are concerned. Should the line lie to either side of the flame, there is either latent convergence or latent divergence; the former if the line is on the same side as the rod, the latter if to the other side. In testing for vertical deviations, hold the rod vertically, so as to produce a horizontal line of light. If the line passes through the flame, there is no tendency to vertical deviation, but if it appears above or below, there is anaphoria of that eye which sees the lowest image. These deviations, whether vertical or horizontal, may be measured in two or three ways. Prisms of increasing strength may be placed in succession before the naked eye till that prism is found which brings the line and the flame together. In testing for anaphoria, the edges of the prism should be up or down; *up* if the flame appears lower than the line; *down* if the flame appears higher than the line. In testing for horizontal deviations, their edges should be in or out; *in* if the diplopia is homonymous; *out* if it is crossed. Another method is to use two flames instead of one. In looking at these with a rod before one eye, two lines and two flames are seen. If both flames have a line passing through them there is no deviation; but if not, the flames are made to mutually approach and recede from each other till the central flame and line meet, when their distance apart measures the heterophoria.

A Suggestion as to the Function of Some of the Retinal Elements.—Berry (*Ophth. Rev.*, May, 1890) asks the question whether it is not possible that the rods are the end organs of projection and of movements started in the interest of fixation. In the first place, it can not be denied that their arrangement is suitable; the number over a given area increases as we pass from center to periphery, while they do not exist at all at the center of the retina. Corresponding to this distribution an eccentric image will cover, and the light vibrations which constitute its physical basis will bring into functional activity, a relatively larger proportion of rods to cones the more peripheral the image is. The afferent stimulus might therefore, from the mere summation of the impressions received by each individual end organ, be greater relatively to the size and luminosity of the retinal image the more peripheral the image. It is not likely, however, that there is any invariable connection between the relative number of rods stimulated and the movement elicited in response. The fact of the possiflility of a new projection being acquired after some time appears to point forcibly to the existence of some other reflex end organ in the retina than the cone and presumably the rod. The reason for this is that in the matter of projection the center of the retina may sometimes be found to act differently from the peripheral portions.

Iridescent Vision in Glaucoma.—Collins (*Ophth. Rev.*, July, 1890) thinks that the halos produced by erythrophlœine and by increased intra ocular tension are due to the same cause, and that that cause must be looked for in the cornea. In glaucoma it is in the earliest stages, often during periods of slight increase of tension, that the colored rings are most frequently seen and when the steaminess of the cornea is only slightly marked. In the later stages, when this is more pronounced, the halos disappear. The same with the anæsthesia; in the early stages this is but slight; in the later stages, when the steaminess is greater and the halos absent, it is more evident. The steaminess of the cornea in glaucoma is evidently at first an epithelial change, for if a little of the epithelium be rubbed off, a perfectly clear cornea remains. It can be easily imagined that the stretching of the cornea consequent on the increased tension of an eye would tend primarily to diminish the lymph streams circulating through it, and, as a result of this, slight drying of the surface epithelium, and possibly some shrinking of the cells and formation of spaces between them. Changes brought about in this way would tend rapidly to come and go with slight alterations in tension, as are seen in cases of glaucoma.

A Form of Ocular Xerosis.—Kollock (*Ophth. Rev.*, September, 1890) calls attention to a peculiar form of this disease prevalent among negro children. The conjunctiva oculi is markedly pigmented. It has a dirty-white and yellowish-green hue that gives the eye a disagreeable appearance. The portion of the conjunctiva visible between the lids is darker than the rest, and generally thicker near the corneal margin. The pigment extends well back into the retrotarsal folds, but does not invade the palpebral conjunctiva. The ocular conjunctiva may be merely thickened and discolored, but it is relaxed and flabby, so that every movement of the eye throws it into folds about the cornea. The cornea is frequently bordered by an ulcerating ring that is generally below the surface, but at times is slightly elevated. This ulceration never encroaches farther on the cornea. The edges of the cornea are always hazy, but the center may be clear. In pronounced cases the corneal epithelium is in folds or ridges like the conjunctiva. Treatment, which consisted in building up the weakened constitutions, was usually followed by beneficial results. Locally, a collyrium of boric acid and a weak ointment of yellow oxide of mercury (gr. ss. to ℥ j) proved effective.

Muscular Asthenopia.—Roosa (*Ophth. Rev.*, October, 1890) does not believe that muscular asthenopia, as understood by von Graefe, has any such importance as he and other writers have attributed to it. He believes that insufficiency of the ocular muscles is usually a consequence of organic conditions in the eyeball, such as myopia, hypermetropia, and astigmatism, and he thinks that the term muscular asthenopia should be expurgated from ophthalmic nomenclature. Roosa also believes that if Donders had made investigations in the field of astigmatism similar to those which he made in the field of hypermetropia he would have proved that his own law—that an organic fixed condition of the eyeball is the chief cause of asthenopia—was of exclusive importance, and that unstable secondary muscular conditions did not deserve much consideration. Roosa does not believe in the existence of a fixed standard by which we measure the power of the muscles of the eyeball any more than for other muscles of the body. He admits that there is a class of cases of asthenopia in neurotic subjects and in women suffering from diseases of the generative organs that is never perfectly relieved by correction of the existing errors of refraction. The same may be said of the asthenopia sometimes occurring after typhoid fever and other exhausting diseases.

A New Operation for Symblepharon of the Lower Lid.—Harlan (*Ophth. Rev.*, December, 1890) describes a method of operating in these cases as follows: The adhesion is freely dissected up until the movements of the eyeball are unimpaired. An external incision along the margin of the orbit is then carried through the whole thickness of the lid, which is thus separated from its connections except at either extremity. A thin flap is then formed from the skin below the lid, care being taken to leave it attached at its base-line by the tissue just beneath as well as at the extremities. On this attachment it is turned upward as on a hinge, bringing its raw surface into contact with the inner surface of the lid and its sound surface presenting toward the ball, and it is held in this position by suturing its edge to the margin of the lid. In dissecting up the flap the incisions are carried more deeply into the orbicularis muscle, when the base-line is nearly reached, to enable it to turn more readily. The base space left by the removal of the strip of skin may readily be covered without strain by making a small horizontal incision at its outer extremity and forming a sliding flap.

Sarcoma of the Iris in a Child aged Two Years.—Alt (*Amer. Jour. of Ophthal.*, February, 1890) reports an interesting case of this kind in a young child of apparently little more than four weeks' duration. The right eye showed but little injection. The small pupil was bound down to a cataractous lens. The iris was swollen and nodulated, and the anterior chamber was shallow. There were several nodules in the iris, two of them quite large. In the following weeks the swelling of the iris increased, and finally the largest nodule showed signs of parenchymatous hæmorrhage. About two weeks after Alt first saw the child the episcleral injection became marked, and there appeared two staphylomatous projections of the sclera in the ciliary region. The enucleation of the eye was then advised and immediately performed. The eyeball being hardened and cut open, it was seen that the neoplasm involved almost exclusively the iris. On microscopical examination, the tumor, which involved the whole of the iris, was found to be a round-cell sarcoma. It had evidently originated in the loose parenchymatous tissue of the iris, and was bounded posteriorly by the partly destroyed uvea and anteriorly by the dense connective tissue which forms the anterior layer of the iris.

Tumors of the Optic Nerve.—Ayres (*Amer. Jour. of Ophthal.*, March, 1890) reports two cases. The first was in a boy, aged twelve, who, when first seen, said he had been partly blind in the right eye for several months. There was slight exophthalmia, vision was reduced to shadows, and tension was increased. There was well-marked optic neuritis. Three months later the swelling of the disc had subsided and atrophy had set in, but he could count fingers at five feet. Six months later there was a marked change in the symptoms. Vision was entirely gone and there was marked atrophy of the disc. There was exophthalmia and a tumor could be felt in the upper and outer portion of the orbit, which felt firm and elastic. The motility of the eye was not impaired. Enucleation was at once performed, the nerve being severed close to the optic foramen. The tumor was fusiform, quite regular in outline, and inclosed in a thick, firm capsule. Its outer surface was wrinkled or corrugated. It was 28 mm. long and 20 mm. thick. The microscope showed that the growth was a small round-cell sarcoma, very vascular and containing a large amount of mucoid tissue, and hence belonged to the class of myxosarcomata. The tumor completely surrounded the optic nerve, which could be distinctly seen, even by the naked eye, near the center of the transverse sections. It was separated from the neoplasm by a much-thickened pial sheath. The fibrous tissue envelope of the nerve fibers was sclerosed, and the nerve fibers were atrophied. The tumor was surrounded by the external sheath of the nerve, which was very much thickened. The second case was that of a young woman aged twenty-two. When eight years old she had fallen on the ice and injured the back of her head. The tenderness of the occiput lasted for three months, and shortly after she discovered that her right eye was nearly blind. Seven years later Ayres first saw her, and there was then complete blindness of this eye from atrophy of the optic nerve. There was at that time slight prominence of the eye and slight divergence. This was in 1880, and since then there has been a gradual increase in the prominence of the eye. There have been shooting pains in the orbit and right side of the head. In March, 1889, the protrusion of the eye amounted to 7 mm., the motility was unimpaired, and it was not possible to detect any growth in the orbit. The contents of the orbit were enucleated on March 9, 1890. The growth was found very firmly attached to the apex of the orbit, but it came out entire, leaving the bony wall of the orbit smooth. The growth was triangular or irregularly pyramidal, the base being attached to the inner wall of the orbit. It was inclosed in a strong capsule which presented a uniformly smooth surface except inward, where there were three small nodules. The optic nerve was not involved for a distance of 8 mm. from the globe. The base of the tumor was 25 mm. long and 14 mm. broad. The surface measurement of the tumor on its longest side was 40 mm., and its shortest 20 mm. It measured 20 mm. in thickness. Microscopic examination showed that the tumor was a myxosarcoma of the small fusiform-cell variety. The cells were closely aggregated together with very little intercellular tissue.

The Color Sense in Indirect or Peripheral Vision.—Hess (*Arch. für Ophthalmologie*, Bd. xxxv, 4) gives the results of his investigations as follows: 1. There are three varieties of homogeneous light, yellow, green, and blue, which to a chromatically neutral eye have their degree of saturation diminished by an increasing indirect vision, but do not change their color-tone. All the other homogeneous sources of light change their color-tone more or less distinctly. 2. Compound colored lights, which, seen by a chromatically neutral eye, appear in one of the known four color-tones, also lose in saturation by increasing indirect vision, but do not lose their color-tone. 3. The unchangeable homogeneous blue and yellow, green and red represent two complementary colors. 4. Colored lights, which in the corresponding retinal zone appear distinctly as red or green, in indirect vision lose their saturation, and become, respectively, more yellowish or bluish as the indirect vision becomes more pronounced. 5. The best method of determining the eccentric manner in which in a given retinal radius a colored field becomes colorless, consists in giving to the colorless field which originally bore the colored field the same degree of illumination which the colorless field has, so that the latter in correspondingly peripheral vision can no longer be distinguished from the general background. 6. When two colored fields upon a colorless background entirely disappear in peripheral vision, because their color is no longer perceived and their brightness or intensity is like that of the background, the same intensity value may be described to both. 7. The perception for red in individual retinal radii or meridians diminishes with the eccentricity of the retinal points in exactly the same degree as does the perception for green; and the perception for yellow as does that for blue. The perception for red-green diminishes much more rapidly from center to periphery than does the perception for blue-yellow. 8. There can not be any absolute limit established for either the red-green perception or the blue-yellow perception; that is a limit beyond which these colors shall be recognized as such in every case.

The Various Theories offered in Explanation of Peripheral Color-blindness.—Hering (*Archiv für Ophthalmologie*, xxxv, 4) passes the following criticism on the various hypotheses hitherto offered: 1. Three definite, homogeneous colors—yellow, green, and blue—as long as they retain any colored appearance, are seen by all parts of a chromatically neutral retina with the same color-tone as at the macula, though with very different degrees of saturation. 2. The other homogeneous colors, with increasing peripheral vision, change, more or less distinctly, not only their saturation, but their color-tone. 3. Two of these colors, yellow and blue, are complementary to one another. 4. Any two complementary colors, which are complementary for a given point of a chromatically neutral retina, are complementary also for any other point. 5. Compound colors whose color-tone corresponds to the tone of one of the three unchangeable homogeneous colors, colors of a definite red color-tone, and finally all whitish colors, do not change their tone with respect to their loss of color in peripheral vision if the retina is chromatically neutral. 6. All other mixed or compound colors, under these circumstances, change not only their saturation, but their color-tone. 7. The red colors unchangeable in tone, when mixed with the unchangeable green, give white for every neutral retinal point, and so do the unchangeable yellow when mixed with the blue. 8. The inadmissibility of Fick's hypothesis as an explanation of peripheral color-sense, as well as the general incorrectness of the Young-Helmholtz theory, are, in the mind of Hering, clearly established.

The Relative Range of Accommodation.—Pereles (*Archiv für Ophthalmologie*, xxxv, 4) calls attention here to certain points in the matter of relative accommodation: 1. The increase of the maximum accommodation, which can be brought into use with a corresponding increase of the convergence, is directly proportional to the corresponding latent accommodation. 2. The increase of the maximum relaxation of the accommodation, which can be elicited by a proportionate diminution of the convergence, is directly proportional to the corresponding latent relaxation. 3. The entire relative range of accommodation in emmetropic or myopic patients may be almost completely marked out by the determination of three points—viz., the absolute near point, the absolute far point, and any one other point in the middle of the curve. Pereles has found that in the myopes examined by him the extent of the relative range of accommodation did not differ from that of emmetropes. This is contrary to the results hitherto published.

The Shape and Size of the Intervaginal Space of the Optic Nerve in the Region of the Optic Canal.—Pfister (*Archiv für Ophthalmologie*, xxxvi, 1) draws the following conclusions from his investigations: The shape of the optic nerve and the extent of the intervaginal space in the optic canal are individually very different. There is always considerable space between the dura mater and the pia mater. Sections show that this space entirely surrounds the nerve and is traversed by numerous fine septa of connective tissue. Some sections show a distinct point of adhesion between the two sheaths, which is most frequently met with downward and outward toward the arteria ophthalmica superior. In almost all sections, even in those in which no point of adhesion between dura and pia was found, the connective-tissue septa or trabecular bands were most numerous and thickest nearest the arteria ophthalmica. In certain sections the points of adhesion between the sheaths were outward and inward. In a limited number of sections the adhesions were upward and outward, and in a few of these latter downward also. He concludes that in the canalis opticus there is a space which, while it does not everywhere entirely surround the nerve, still offers a very free communication between the subdural space of the brain and the intravaginal space of the intra-orbital optic nerve.

Cortical Blindness.—Förster (*Archiv für Ophthalmologie*, xxxvi, 1) draws the following conclusions from an examination of a case in his experience: 1. The deviation of the dividing line toward the defective side, which is so frequently met with in homonymous hemianopsia, does not depend on a mingling of the elements of both optic tracts in the retina, but upon the favorable vascular supply of the point of sharpest perception in the occipital cortex. 2. Bilateral hemianopsia is not necessarily connected with complete loss of function in both halves of the visual field of both eyes. 3. The cortex of the occipital lobes controls the topographical ideas, whether they are acquired through the visual sense, or the sense of touch, or through the consciousness of the carrying out of muscular movements, or by description. If these parts of the brain become diseased, the power of grasping or reproducing topographical ideas is lost. 4. For distinguishing color the function of a small zone of cortex is not sufficient, even with complete integrity of the retina. The power of distinguishing color is lost much more easily in disturbed nutrition of the elements of the cortex than that of distinguishing form, as of small letters. 5. Destruction of the cortex in the occipital lobes does not cause atrophy of the optic nerves.

The Dependence of Myopia on the Structure of the Orbit, and the Relations of the Conus to Refraction.—Seggel (*Archiv für Ophthalmologie*, xxxvi, 2) draws the following conclusions from his observations: 1. The conus results from a stretching at the posterior pole, but, as Stilling demonstrated anatomically, is pre-eminently the perspective phenomenon of the sclerotic funnel, rendered visible by oblique distortion. Stretching and atrophy of the chorioid, with thinning of the sclera at the posterior pole, only occurs when the connections of the sheath of the optic nerve are very firm. From this result posterior sclerotico-chorioiditis, and usually also a more or less marked diminution of the visual acuity, especially of the central light-perception, while the more infrequent occurrence of diminished visual acuity in cases of a sharply defined conus is due to the laceration of the optic-nerve fibers, especially the fibers going to the macula. 2. A conus is rare in emmetropia and hypermetropia, is almost an exceptional symptom, but in myopia it is almost universal, and hence is here a typical symptom. A conus in emmetropia and hypermetropia is a sure sign that, respectively, hypermetropia or a higher degree of hypermetropia has existed. Under unfavorable relations the visual acuity and the light-perception are affected in the same way as in myopic eyes, though to a less degree. The so-called myopic process may also be developed in hypermetropic and emmetropic eyes. 3. The conus is not only in general terms a typical symptom for myopia; its size is more or less dependent on the degree of myopia. If the size of the conus is disproportionate to the degree of myopia, or if in high degrees of myopia there exists no conus at all or merely a slight crescent, the myopia is of the kind known as congenital curvature myopia, which would be increased still more by near work. 4. Between the two extremes of myopia, the frequent and fortunately harmless myopia induced by work, and the very rare form of hydrophthalmia, there exist many different degrees or varieties, and the existence of these varieties prevents us from regarding myopia as a harmless change of shape of the eye, which renders any hygienic regulations unnecessary. 5. The circular staphyloma, as a rule, is developed from the simple conus by increase of the myopia, and hence is to be regarded as the typical sign of an eye which has become very near-sighted as a result of close work, and which has become materially injured in its functions.

The Extinction of the Retinal Images of the Squinting Eye in Binocular Vision.—Kugel (*Archiv für Ophthalmologie*, xxxvi, 2) summarizes his observations as follows: 1. The single vision of squinters depends neither upon congenital incongruence of the retinæ nor on the development of new relations of identity or of a very weak relation of correlation. Psychical processes, whether active or passive, can not be regarded as the reason or explanation of the single vision of squinters. 2. The single vision of squinters depends on physiological processes, and the explanation may be threefold, viz.: *a.* Abandonment of the squinting position. *b.* The most important factor in the single vision of squinters is the suppression of the images of the squinting eye by images of the fixing eye made on corresponding retinal regions and with well-defined contours. If, however, the squinter fixes an isolated object in binocular vision, which would appear as double images: if the retinal perception is well maintained, the image of the squinting eye in such a case may be suppressed, so that another object may be imprinted upon the identical retinal spot of the fixing eye. This appearance is based upon the marked influence which the contours of the images of the more acute fixing eye exert upon the images of the weaker eye. Consequently people with normal vision may observe the same appearances in their eyes by artificially diminishing the acuity of vision of one eye, and by means of a stereoscope bringing the images of different objects on identical retinal regions. In general vision, however, the retinæ of both eyes are covered with images, and hence, in consequence of the squinting position, dissimilar images are imprinted on corresponding regions of the retinæ. Hence in diminished vision of one eye there is no antagonism of the visual fields, as there is in the case of equal vision in both eyes; but the image of the weaker eye is simply suppressed by the stronger image with well-defined contours. From all these facts it is explained why the same squinting person under certain conditions sees double and under certain other relations sees singly. When the visual power of the squinting eye is good and the retina possesses normal perception in uniocular vision, the squinter is not disturbed by double images, because of the difference in accommodation in the two eyes produced by the squinting position and of the oblique position of the cornea of the squinting eye. *c.* Single vision in squinters, in whom the squinting eye in monocular vision has still good vision, may be explained by the fact that the retinal region in the squinting eye, on which in binocular vision the images of the object fixed by the other eye are imprinted, has become amaurotic. In this case even objects are seen singly in which the conditions for suppression are not present. Here the explanation of the single vision of objects must be sought in a local, stationary, pathological condition of the retina caused by the blindness, and images, which are found on this region of the retina in the uniocular vision of squinters, are as little perceived as if they existed on the same region in binocular vision. The appearances in the binocular vision of squinters will vary according to whether an amblyopic spot is present in the squinting eye or not, and according to the degree of the existing local amblyopia, according to the size, form, and limitation of the amblyopic region. No matter how different may be the appearances of single and double vision in the binocular vision of squinters, we still have sufficient experience and knowledge to explain them in a simple and easy way.

The Pathological Action of Contours in Uniocular Vision in Astigmatics, and Blinding as a Cause of Nystagmus.—Kugel (*Archiv für Ophthalmologie*, xxxvi, 2) has written rather an involved article on these subjects. He considers that in astigmatic patients the more sharply defined contours have the same effect on the circle of dispersion of the same eye which surround them, which depend on the bundles of rays lying in other meridians, as the contours of the more acute eye have on the images of the other eye, in cases of unilateral amblyopia in binocular vision. He thinks there is no doubt that those contours of objects which give distinct images in the astigmatic eye aid in suppressing the circles of dispersion which surround them, and that thus they gain, as it were, their existence in the visual field, and that this process accompanies irritation and blinding. The pathological movements of the eyeballs which we call nystagmus are to be regarded as clonic reflex spasms of the muscles caused by retinal irritation and blinding, for the following reasons: 1. Congenital nystagmus is always connected with those forms of ocular disease in which blinding (fusion) is present in binocular vision. Astigmatism of one or both eyes is one of the first causes to be considered. By the study of uniocular blinding (fusion) we have gained the means of explaining the almost constant union of nystagmus and astigmatism and the connection between them. The occurrence of nystagmus in albinos is explained in the same way, where, in addition to the deficiency of chorioidal epithelium, there is in most cases astigmatism also. 2. The reasons hitherto given for regarding congenital nystagmus as the result of clonic reflex spasms caused by blinding (fusion) leads to the conclusion that acquired, so-called professional nystagmus is due to the same ætiological factor. According to him, the only difference existing between congenital and acquired nystagmus is that in the former the cause lies in the eyes themselves, while in the latter the cause is outside the eyes. In the case of miners, the lights of their lamps in dark spaces and the reflection of the light from the surface of the coal are sufficient to lead us to explain this professional nystagmus as due to blinding (fusion). The rapid relapse of the disease on again assuming work, the frequent connection between this disease and hemeralopia with narrowing of the visual field, the fact that the disease attacks the workmen the more easily, the more badly lighted are the shafts and passages, are all factors which strengthen the assumption as to the cause of the disease. 3. A further proof of the correctness of this view is afforded by the cure of professional nystagmus and the improvement of congenital nystagmus by corresponding rational treatment. It is evident that nystagmus can not therefore be regarded as a harmless pathological symptom, for though the nystagmus may not in itself do damage, the ever-existing cause does. The cause of the nystagmus must be done away with before the preservation and eventual improvement of the vision can be brought about. The extinction, consequently, of the condition of irritation which is produced in one eye by the contours of the other is hindered in its extension by the contours present in the first eye. The extinction, and with it the confusion, can be abolished or prevented in its action by all means which diminish the visual acuity of the stronger eye and make it equal to that of the other eye. The one means we have of eliminating the signs of extinction and blinding without diminishing the visual acuity of the stronger eye is to put a dark glass before the latter eye. The effects of the contours in binocular vision may be avoided in cases of unilateral amblyopia by employing white objects on a black ground, instead of black objects on a white ground. Occlusion of both eyes or of one eye, by preference the weaker eye, may be employed as a means for obviating binocular extinction.

The Doctrine of the Disturbances of Function of the Visual Sense.—Treitel (*Archiv für Ophthalmologie*, xxxvi, 3) draws the following conclusions from his investigations: A diminution of the central power of distinguishing differences may be observed in opacities of the refracting media, in diseases of the fundus of every kind, and also in affections of the optic nerve. Diminution of the central power of differentiation is therefore not a specific sign of definite forms of amblyopia. It is much more a symptom of diminished functional power of the visual sense, in the same way as diminution of the visual acuity and of the quantitative color-perception.

The Theory of Squint.—Schneller (*Archiv für Ophthalmologie*, xxxvi, 3) draws the following conclusions: I. In only a small number of cases of concomitant squint is the squint caused by physical relations of the parts involved in the position of the eyes. The squint depends mainly in these cases on the influence of abnormal relations of the transverse sections of the muscles of both interni or both externi, or their elasticity, and to a less extent on the shape of the orbit, the position of the globe, and optic nerve in the orbit. II. In the great majority of cases the concomitant squint depends entirely or in great part upon a living activity of the parts engaged in the movements of the eye. In regard to those cases in which the squint disappears during narcosis there are three points to be considered—viz., what influence upon the abnormal positions and movements of one eye are produced by: 1, the innervation; 2, the condition of the muscles subject to this innervation; and 3, the resistance or obstacle opposing their action? 1. Innervation. *a.* A defective innervation of adduction, generally from a central cause, may produce parallel squint or insufficient convergence. *b.* The innervation may within certain limits suppress the squint. *c.* A similar performance or inducement may give rise to the normal muscular sensation, while an antagonistic inducement may give rise to an abnormal muscular sensation. *d.* Anomalous innervation of accommodation produces within certain limits and under certain conditions on the one hand convergent squint for all distances, and on the other hand divergent squint for a definite approximation of the object of fixation. 2. The condition of the ocular muscles. A disproportion in the cross-section of both interni and of both externi in reference to each other and to their normal relation tends to produce convergent and divergent squint. Squinting upward and downward may be produced by anomalies in the cross-section of the muscles which turn the eyes upward and downward. With the same innervation the muscle with the greater cross-section accomplishes more than the muscle with the lesser. Hence, with an innervation which maintains the normal equipoise of abduction and adduction for a definite distance, there is an inclination to deviation of one eye from this position which becomes manifest if not sufficiently antagonized, or if the disproportion in the muscular cross-sections becomes too great. Good or bad nutrition of the entire body exert an influence upon the more or less marked effect of this disproportion. This "muscular squint" differs from the so-called "innervation squint" in that the latter sooner or later disappears after correction of the anomalies of refraction, improvement of the visual acuity, etc., while the former remains manifest or latent. 3. The resistances or obstacles met with. Of this we know nothing more than Donders has communicated to us.

The Nerve-terminations in the Cornea.—Brand (*Archives of Ophthalmology*, xviii, 4) has recently discovered that there is no subepithelial or interepithelial plexus in the cornea, but that the so-called rami perforantes are really the final terminations of the corneal nerves, and support the terminal nervous organs. As the perforating branches reach forward they swell and bear upon their terminations the nervous organs, in the shape of a peculiar thickening. This organ varies in different species and in different individuals, and even in the same eye, but Brand has never seen any of them rise above the corneal stroma. The remaining terminations of the nerve fibers in the stroma of the cornea itself always unite with other fibers.

Contribution to the Anatomical and Clinical Study of Glioma of the Retina.—Lagrange (*Archives d'ophthalmologie*, September–October, 1890) draws the following conclusions from his observations: 1. Glioma of the retina sometimes takes a relatively benign course. It then assumes the endophytic form and remains for a long time confined to the interior of the eyeball. 2. The relative benignity of this tumor may be explained by the thickening of the vitreous lamina of the chorioid and of the lamina cribrosa. 3. Glioma of the retina is not as grave a disease as has hitherto been represented. Cases of definite cure, or of long survival, are by no means rare. 4. The enucleation of the eye before perforation by the growth promises a good result in at least 20 per cent. of the cases. 5. Two varieties of glioma must be distinguished. One, the most malignant, has frequently been confounded with leucosarcoma of the chorioid. The other, curable by early intervention, is much more benign in character.

The Gland of the Aqueous Humor, Gland of the Ciliary Processes, or Uveal Gland.—Nicati (*Archives d'ophthalmologie*, November–December, 1890) gives the following *résumé* of his anatomical investigations: A double membranous sac, represented by the vitreous lamina within and Sattler's lamina without, containing the capillaries, lines the entire globe of the eye and ends in front in the gland. The vitreous lamella, absolutely continuous, should prevent the exit of any fluid on the side of the retina. The external lamina is only permeable by the circumvenous lymphatic spaces, and this only during embryonic life, as these spaces disappear at birth. From this time on—that is, when the gland begins to perform its functions actively—the external lamina is equally impermeable. If, therefore, the capillaries are transuded with serum, it can not pass out through the walls of the sac, and hence must circulate between them. This serum can not flow out in any direction except forward, at that point where, the vitreous lamella having disappeared, the sac opens on the ganglionic epithelium. Nicati regards the choriocapillaris as the well or source of supply of the aqueous humor. The channels for the absorption of the aqueous humor are the lymphatic wells and lacunæ of the iris, and the circumvenous lymphatic channels ending in the vasa vorticosa, the posterior ciliary veins, and the anterior ciliary veins. The aqueous humor is absorbed by the so-called lymphatic sponges of the iris, including Fontana's spaces; it thence passes into the spaces outside the veins, and empties finally into the veins themselves.

The Causes of the Apparently Nearer Position of the Lower of Two Images in Vertical Diplopia.—Sachs (*Archiv für Ophthalmologie*, xxxvi, 1) assumes, to begin with, that the upper image is fixed. This is really done by one eye, though we believe that both eyes take part in the fixation. According to the investigations of Fechner, the factor under consideration would be the compulsory displacement in the horopter on account of the non-appearance of the double images, unlike in appearance, which tend naturally to the formation of a different conception. The phenomenon of the physiological convergence is not hindered by the appearance of unlike double images, and it must not be assumed that the lower image lies in the horopter. The convergence strengthens us in the assumption that the lower image stands nearer, a conception which at first arises from the displacement in the horopter. The tendency to a physiological convergence in looking downward is usually counterbalanced or antagonized by the action of the superior oblique muscle.

Isolated Bilateral Ptosis.—Fuchs (*Archiv für Ophthalmologie*, xxxvi, 1) reports several cases of this rather rare affection, and draws the following conclusions: He considers that these cases are to be regarded as cases of atrophy of the levator muscle of the lid, for the following reasons: 1. The course of the disease is excessively slow, so that even after a lapse of years there is still left some contractile power in the muscle. The same thing is seen in atrophy of other muscles. 2. The atrophy of the soft parts over the levator, as shown by the thinning of the skin and the sinking in of the skin below the orbital margin, due to absorption of the orbital fat. These are regular and characteristic occurrences in primary atrophy of muscles. 3. In a number of cases there has been a slight degree of congenital ptosis, which proves that the levator of the lid has from birth possessed an abnormal tendency to atrophic changes.

Anomalies of the Ocular Muscles.—Stevens (*Arch. of Ophthalmology*, xviii, 4) draws attention to what he calls the following principles: 1. Results of examinations for strabismus should be expressed in angles and not in linear measurements. 2. To this end diplopia must be recognized and the double images carefully located. In no case should a full correction of the squint be attempted until the relations of the visual lines have been carefully observed. 3. The relative position of the double images is sometimes contrary to well-known laws, and may be misleading. 4. The unequal tension of the two pairs of superior and inferior recti is often responsible for an apparent converging or diverging strabismus, and in many such cases cures are attempted by operations on the lateral muscles, which leave the cases in conditions worse than before the operations. 5. The traditional "antipathy to single vision" is not a physiological fact, but a phrase expressing only the inability of the surgeon to interpret the meaning of the double vision. 6. The correction of squint, with the view of obtaining perfect binocular vision throughout the whole range of vision, instead of being one of the easiest of surgical operations, is a procedure demanding the supreme ability of the accomplished observer and the highest skill of the dexterous operator.

Ocular Leprosy.—Lopez (*Arch. of Ophthalmology*, xviii. 4) sums up his investigations as follows: The lepers lose the brightness and expression of their look. When the neuralgic pains of the face are concentrated, especially around the eyes and root of the nose, the conjunctiva becomes slightly injected, the look is dull, and the eyes take a melancholic expression. During the course of the disease appear various manifestations of the disease in the different membranes of the eye. At an advanced stage of the disease keratitis is followed by atrophy of the cornea; the pupillary obstruction ends in atrophy of the iris; the conjunctiva is the seat of xerosis; and, lastly, the leprous tubercle, with its slowly advancing progress, involves all the membranes, destroys all the tissues, ulcerates and converts the eye into a bleeding mass, which ends in total atrophy of the organ, leaving only a stump in the orbit.

Helps in Practical Ophthalmic Work.—Gould (*Arch. of Ophthalmology*, xviii, 4) first calls attention to an improvement in bifocal lenses. The distance lens should be a little larger than for unifocal lenses, and the presbyopic segment must be ground to the thinness of a watch-crystal, and attached to the inner surface of the distance lens by Canada balsam. Such a pair of lenses he thinks will relieve eye-strain at all times, and much annoyance and discomfort are spared the patient. Gould also mentions an ingenious plan devised to obviate the light-circle about lenses. It consists in simply beveling the edge of the lens all round at such an angle that it shall form a plane with a line drawn from the pupil. The edge of the lens then becomes entirely invisible to the wearer. The edge must not be polished, but left in a state intermediate between that of ground glass and that of a lustrous polish. Gould next describes a new device for measuring astigmatism. The mechanism consists of a rigid framework that mounts a card about two feet square containing circle-wise the meridional numbers every ten or fifteen degrees. This card is pierced in the center by a revolving shaft upon which is mounted a disc, with astigmatic lines all in one meridian, about eight inches in total width and fifteen inches in length. The central line is used as a pointer, indicating the axis by any number opposite which it may be revolved. This external disc is revolved by an endless wire or cord wound about the shaft behind the disc, and by double pulleys extending along the surbase of the room to the left of the refraction case on the opposite side of the room, where a mirror may be placed in front of the surgeon in such a way as to show him the position of the disc as he rotates it by means of the cord. The patient quickly and easily discovers the exact axis by means of the clearness or fading of the lines.

The Determination of Refraction by the Illumination Test.—Schweigger (*Arch. of Ophthalmology*, xviii, 4) uses the phrase "illumination test" to describe the process of retinoscopy, or keratoscopy, or coreoscopy, because its essential purpose is to determine the optical value of the displacement of the illuminated field in the fundus of the eye, by revolving the mirror upon its axis. He considers the test of special value in the determination of strabismus.

Glycogen in the Cornea and Conjunctiva of Pathological Eyes.—Schiele (*Arch. of Ophthalmology*, xviii, 4) has discovered that the "amyloid substance" of Beselin is glycogen. It does not exist in the less-pronounced epithelial layers of the cornea and conjunctiva in cancerous growths. Wherever there is a luxuriant cancerous proliferation with extensive epithelial cones composed of large differently shaped cells, there we find glycogen. It is present in total staphyloma of the cornea, and in the conjunctiva in cases of "spring catarrh," owing to the pronounced cell proliferation in the region of the limbus.

Extrapapillary Colobomata.—Johnson (*Arch. of Ophthalmology*, xix, 1) describes the salient characteristics of these colobomata as follows: 1. The margin of an extrapapillary coloboma is always sharply defined and everywhere surrounded by healthy tissue. 2. In all cases the pigment is found in front of the retinal vessels, and never behind them. 3. In chorioiditis the tendency is toward the formation of multiple lesions, except in senile and central chorioiditis. 4. During the active stage of disease the appearance of the lesion naturally alters, while a coloboma always remains the same. 5. The most important characteristic is the floor of the lesion. In coloboma the sclerotic is seen, of a dazzling whiteness, forming the floor of a well-defined, punched-out pit, sometimes covered with a layer of connective tissue in a circular patch resembling mother-of-pearl. In most cases of chorioiditis the floor is of a dirty-yellow color, or it may be chalky white, and there is a plurality of the lesions.

As an explanation of this congenital defect, Johnson suggests that coloboma has many points in common with nævus: 1. The eye, although a highly differentiated nerve end-organ, is, nevertheless, essentially a skin formation, while the chorioid presents an analogy to the corium both from its position, from its mesoblastic development, and from its affording nourishment to a directly superimposed layer of epiblastic pigment cells. 2. Wherever an agglomeration of chorioidal vessels exists, we find it below the retinal pigment layer, which forms a network over it. 3. The vessels forming the agglomerations are so fused together as to be indistinguishable, and completely hide the sclerotic beneath. 4. The absence of this dense structure in some of the cases can be explained by the analogous occurrence of the altered condition of skin where nævi have disappeared and become absorbed; and Johnson thinks it not unreasonable to suppose that the mother-of-pearl-like sheen and peculiar glistening tissue, which may be seen spreading over the base of some of the colobomata where this vascular mass is absent, is merely the connective-tissue cicatrix of an atrophied nævus. 5. Cutaneous nævi are universally admitted to be congenital malformations, and where they occur we find an increase of the pigment cells over them. Colobomata are likewise recognized as congenital malformations, and the extrapapillary forms are conspicuous by the pigment clusters which surround and cover them.

Ametropic Chorioido-retinitis.—Gould (*Arch. of Ophthalmology*, xix, 1) summarizes his conclusions as follows: Chronic uncorrected ametropia may result in permanent lesion of the region of the macula, usually accompanied by pigmentary changes, with deterioration of visual power and acuity, which is probably permanent. Central chorioiditis may be explained in this way. Simple myopia is the least apt to produce the lesion, and myopic astigmatism, simple and compound, comes next in order of frequency, followed by simple hypermetropic astigmatism. Compound hypermetropic astigmatism, especially if complicated with insufficiency of the muscles, is the most frequent cause.

Skiascopy, with a Description of an Apparatus for its Ready Employment.—Burnett (*Arch. of Ophthalmology*, xix, 2 and 3) here describes an apparatus which he has used to his complete satisfaction. It consists of a hard-rubber disc containing twenty-three lenses on its periphery—ten convex and thirteen concave. The disc is movable on a brass rod, which is attached at either end to two brass rods, which turn on the pivots fastened to a wooden board, which is attached to the wall of the ophthalmoscopic room. This enables the disc to be placed, by means of a screw, at any height, and to be turned and retained in any desired position, and the whole apparatus can be turned back against the wall when not use. The patient is placed in a proper position near the ophthalmoscopic lamp, and the disc is brought before the eye to be examined. By turning the disc on its axis, all the lenses can be brought in rapid succession in front of the eye, and the one giving emmetropic movements to the shadow soon found. The revolving of the disc can be done either by the patient or the surgeon.

A New Treatment of Chronic Trachoma.—Johnson (*Arch. of Ophthalmology*, xix, 2 and 3) describes the following operation: The patient must be completely anæsthetized, and the upper lid everted over the end of a vulcanite spatula, and the conjunctiva is kept tightly stretched over it by means of a double hook. These two instruments must be held firmly between the finger and thumb of the left hand, while the three-bladed scalpel, or "sillonneur," is taken in the right, and the movable guard adjusted to a distance of two, three, or four millimetres from the tip, according to the looseness of the conjunctiva, the œdema of the papillæ, and the general appearance of the lid. In other words, the more succulent the mucosa or the larger and thicker the papillæ, and the more swollen and congested the parts generally, the deeper must be the incision. The incisions are best made parallel to the edge of the lid in a gentle curve, the first incision being made close to the edge and the others following in regular succession toward the retro-tarsal fold. About fifty small tufts of absorbent cotton wool, previously dipped in an aqueous solution of boric acid or hydronaphthol (1 to 1,100), and then squeezed nearly dry, should be used to rapidly mop up the blood in the track of the "sillonneur." Having made a complete cut from angle to angle with the "sillonneur," the next incision must be made in the track of the first—that is, the first blade of the sillonneur must run in the groove made by the third blade of the previous cut. The cuts must be made by a *finger* and not by *hand* motion, otherwise the cuts will not reach the farther side of the lid. After several cuts have been made in this way, the hook must be released and reinserted farther away from the free edge, so as to put the swollen retrotarsal fold on the stretch. The cuts are to be continued several times in this manner and the hook is to be reinserted at the posterior border of the cartilage, so as to get the whole of the retrotarsal fold over the end of the spatula; by this means the whole of the conjunctiva nearly up to the bulb can be incised. It is generally advisable on both upper lids at one time and on both lower lids a few days later. After the bleeding has entirely ceased, an electrolyzer, consisting of two parallel platinum blades, is connected with a battery, and the two blades are pressed firmly into the first two grooves made by the "sillonneur" and drawn along slowly from end to end. All the grooves are thus cauterized in turn. The lids are then cleansed, covered with vaseline, and bandaged with cold moist compresses.

(*To be concluded.*)

Miscellany.

A Note on the Probable Discovery of Snake-bite and Cholera Cure.—Dinshah Ardeshir Taleyarkhan, municipal commissioner to the Maharaja Saheb Guicwar, of Baroda, has issued this circular, dated January 4, 1891:

"It is lamentable in the interests of afflicted humanity that no one has yet discovered an effectual remedy for snake-bite and cholera, the two most dire and implacable foes of human life. The present remedies, as administered in both cases, are very superficial, and so far impotent that they never reach the root of any of these maladies.

"2. It is a common belief that a very efficacious cure exists for snake-bite; and, indeed, I was once promised accession to a certain plant the mere application of the juice of which, I was further told, was a complete antidote for snake-bite.

"3. Among other antidotes, are certain vegetable roots which those who have do not usually part with them, and some rotund semi-transparent substance, which, it is said, a certain tribe of serpents yield in their skull after some years' growth, the mere application of which relieves one from the effects of a snake-bite. It is known to be the serpent's *Mohara*. It is very rarely found and can not be easily had.*

"4. I now beg to place on record, with a view to set an authoritative investigation on foot with the highest deference to the English medical faculty, what occurs to me as being, in a certain measure, vital suggestions likely to lead to a definite discovery of cures in both instances, which the world so badly needs for many generations past.

"5. I would first take up the question of the snake-bite cure. There are several traditions held by the ordinary mass that the common weasel makes use of certain vegetable roots or leaves for self-preservation when bit by a serpent. When attacking a serpent it often resorts to adjacent hedges, where it inhales something or other and returns to attack the serpent. But it seems more probable that the weasel is in itself a proof against any number of snake-bites. It not only initiates attack upon a serpent, but is known to kill it, while the bites of the latter have no fatal effect on it as they have on a human being.

"6. I also learn from inquiries that the weasel retains in it a counter-active venom so strong that it kills fowls by the mere discharge of its breath; and yet it is curious that certain low-castes eat the flesh of a weasel with impunity. It seems to me probable that a weasel, therefore, contains a wholesome antidote for snake-bites, which may be tried for the preservation of human beings.

"7. This may also be inferred from the fact of sparrows and fowls eating up scorpions and other poisonous reptiles with great avidity. The facts, therefore, offer a vast field of research, which may lead us to the discovery of that counteractive vital which absorbs serpent-poison with impunity.

"8. I would here mention another circumstance demonstrative of the fact, that the blood itself of the serpent must be sweet and antiseptic, since any bleeding in its body invites millions of ants thereupon, resulting in the destruction of the serpent.

"9. It is of course to be inferred herefrom that the serpent virus must have an independent retention in its jaws. It is therefore interesting to inquire that, if its life-blood be sweet and antiseptic, the *Mo-*

---

* "A villager once told me that he had seen a snake-charmer extracting this substance from the upper jaw of a serpent as soon as he caught it, and that it was slightly yellowish."

hara referred to in para 3 has been granted by nature for the preservation of the serpent against its own poison when exercised into use.

"10. It is, moreover, my belief that the blood of a weasel must in itself be an antidote for snake poison. It is, therefore, desirable to experiment upon either a fowl, a cat, or a dog, by first having it bitten by a serpent; and the object bit may then be inoculated with the blood serum of a weasel, to discover if the former can recover under the process.

"11. An alternative process may also be tried in first inoculating the animal blood with the virus of a serpent, and, then, constituting an extract for inoculation into the blood of a human being bit by a serpent. Such an experiment may only be tried if it succeeded in the case of a dog, or a cat bit by a serpent and inoculated with the preparation suggested by me. I proceed upon the theory of arriving at a chemico-therapeutic resolve of certain virus which may kill the rank and destructive virus of a serpent. It seems to me essential that the constituents of the serpent-*Mohara* should be carefully analyzed and ascertained, for these may also be chemically converted into a specific against snake-bite.

"12. Among the serpents, there is also one tribe which, though in itself non-poisonous in the human sense of the term, is a proof against the destructive serpent-venom. I should not wonder if an inoculation attempted of the blood serum of such a serpent may also end in the discovery of a snake-bite cure.

"13. Another virus which sweeps away thousands of human beings before men and women have time to hold their breath is the terrible, universally known epidemic of cholera. Whoever has yet attacked it in its inmost home, whence it issues that terrific blast of the hurricane of death that no doctor has yet been able to stem? From year to year I have patiently considered the subject, and, though I have succeeded in ascertaining what medicines are more potent than others in saving life at the earlier stages of the disease (and, accordingly, I have saved hundreds of lives), I have never yet, nor has any one else, come across an infallible cure for cholera. The reason of such a painful failure is our failure in getting at the root of this fell disease.

"14. A patient who has died of cholera in its virulent form has never yet been dissected. This should be done in several cases, but of various pathological traits. Competent dissectors should discover the existence of the finely developed germs, which, in their last stage, supervene life-vitality.

"15. There must exist the prime, the powerfully propagating seat of such germs, microbes, or bacilli, whatever apt medical term may be applied them. A regular pathological discovery of these germs, or deadly electrical gases, as they may exist in the different stages of the disease, will thus be accessible. The scope of their influence, the revolutions which they serially effect in the inner mechanism of the human body, would thus be ascertainable in all the degrees of their supremacy. We should really, with all the force of our intellectual gifts, know what is their true character, and what are they that they should so completely degenerate the human blood as to take all life out of it before those near and dear to the patient could even exhaust their resources of help.

"16. It is not the analysis of the last stool, or the emitical discharge of a cholera-dying man, that may alone solve the ghastly mystery which liquifies and rots the luckless victim. The original seat of this deadly putrescent liquid, or of the nihilistic microscopic germs, has yet to be discovered—in what subtle form they exist? how subtly they come into preponderative life? in what manner they enfeeble, and last of all, completely scotch our life-blood?

"17. This mysterious, all potent substance being thus accessible, I would next proceed to effect the determination for practical application. If its administration kills a living thing, then the long hidden foe is already discovered. Its administration, in an animate thing, will very likely result in the yield of the invaluable fluid needed for the obliteration of this scourge.

"18. It may be that in discovering that particular seat of the death-dealing bacilli, we get hold of a substance for medico-chemical manipulation, which may eventually form a destroying agent for the cholera virus. It may be that an animate object inoculated with the duly manipulated virus, may yield a cholera-proof fluid invaluable to mankind.

"19. It is difficult for me at this stage to mention all the exact processes by which this fluid may be generated. It seems to me equally possible that, having won the stronghold of the virus, and a precise knowledge as to how it works up the destruction of human life, having actually obtained bodily possession of this most subtle foe and clearly discerned its vitality and function, we shall simultaneously hit upon the inimical elements which can as effectually destroy this dread germ-fluid, or gas, or all these three elements put together, as they now destroy human life.

"20. In respect of both the cures it further appears to me essential that counter-poisonous substances should be injected in the blood at the central points of the human frame, the diaphoretic effects of which should be instant and complete. For the present we know no more than the ephemeral applications, outward and intestinal, which are lamentably helpless against that deadly electric current, the ghastly working of which lays death in every one of the nervous centers and in the myriads of cells existing in the human frame, imprinting the fearful picture of death on the countenance and all the outer frame of the patient.

"21. And yet all these are mere chemical changes of the interior mechanism demanding only a prompt beneficent turn of things. The outward, as the inner applications, to an advanced cholera patient are impotent, in that the poison yet finds an easy access to the numberless cells, &c., while a counter-poison is just then needed for injectional purpose; and we may be sure of the opposite electric character of the chemical agent employed. Experiments should be freely made on living things, such as monkeys, especially belonging to the genus *Cynocephalus*, which, perhaps, resemble the humankind more than others, while dissections of corpses of different natures can not be too many, or too constant. Besides the inoculatory substance directly produced from cholera-poisoned germs, preparation of some swift poison like arsenic or other mineral, vegetable or animal poison should be tried as a regular injectionary system which, in my opinion, both classes of patients very sorely need.

"22. It is unfortunate that we are yet in the dark as regards the full pathology of the human blood in the different stages of cholera and snake-bite infections; and I cannot but strongly recommend, with a view to make a definite advance in the toxicology and pathological ætiology as involved in these matters, that some means should be devised for chemical experiments, perhaps simultaneously conducted along with the laboratorical. I fear some time must elapse before a successful method is discovered by which a volume of pure blood is electrically injected into the infected system, while the poisoned equivalent is simultaneously ejected, both the ejectory and injectory points in the human frame, as well as the graduated operation in respect of the volume of blood in both instances, being innocuously determined upon. We should thus set at rest the painful suspense of our verdict, which I trust to have made clear,—I mean the verdict of the noble faculty,—whether the exterminatory infections is due to any poison, substantical or volatical, or both, in more or less unison. The contention here respectfully advanced, that fatal issues are more due to the entire absence of an injectory and ejectory treatment going hand in hand with the interior eliminatory, and electrically recuperative, processes, can also thus be finally decided upon. I am aware of the difficulties which our administration would have in undertaking experiments free of the slightest taint of empiricism. The difficulties, however, are not insurmountable; and I would further humbly hope that our own paramount Government and that of other enlightened countries may be pleased to organise the several experiments contained in this note, albeit of a layman. The request is preferred to an ever-progressive and rising faculty than which there is no other appropriate body to listen to a supremely grave problem affecting the safety, the welfare and the peace of mind of the many millions of our world's own.

"23. With a view, moreover, that the therapeucy on both the important questions may be adequately advanced and lead to their much-desired solution, I would propose dissection of corpses in both cases—a dissection which should extend as much to the crowning, as to the abdominal, parts of the body, accurately colored pathological charts being prepared showing the graded and precise actions of the several poisons in the interior of the human frame, the method suggested by me to one of the noblest of the temperate advocates, Mr. W. S. Caine, M. P., in the instance of alcoholic virus, being the construction of a set of glass human frames, inwardly tinted as in Nature's original, pointing out the inner mechanism which may be entirely free of the alcoholic poison, in one instance, and, in the other, as charged with consistent alcoholic poison, these two objects forming the most efficacious monitors warning off human beings from a poison no less determined, though slower, in action, than the serpent and cholera virus.

"24. I trust to have humbly given sufficient clue to the several discoveries for the purpose of starting an authoritative medical investigation into the question of the two cures here dwelt upon. His Highness' administration, which has done so much for the progress of humanity in the Guicwary territories, will, I trust, be pleased to sanction the investigations and experiments which the problems, above adverted to, now very emergently call for. The medical faculty of Baroda possess both native and European medicists of such high stamp, that I need hardly say they will evince a masterly interest in the proposals which I feel great honor in laying before them under the distinguished auspices of our enlightened and benevolent ruler."

Mortality in Cities in the United States.—The following table represents the mortality in the cities named, as reported to Dr. John B. Hamilton, Surgeon-General of the Marine-Hospital Service, and published in the Abstract of Sanitary Reports for March 13th:

CITIES.	Week ending—	Estimated population.	Total deaths from all causes.	DEATHS FROM—										
				Phthisis pulmonalis.	Yellow fever.	Small-pox.	Varioloid.	Varicella.	Typhus fever.	Enteric fever.	Scarlet fever.	Diphtheria.	Measles.	Whooping-cough.
New York, N. Y.	Mar. 7.	1,665,098	735	104	..	..	..	..	..	1	24	33	15	10
Chicago, Ill.	Mar. 7.	1,200,000	491	41	..	..	..	..	..	14	11	14	6	5
Philadelphia, Pa.	Feb. 28.	1,069,264	401	52	..	..	..	..	..	9	4	16	..	4
Philadelphia, Pa.	Mar. 7.	1,069,264	378	....	..	..	..	..	..	9	6	10	..	....
Brooklyn, N. Y.	Mar. 7.	853.945	368	56	..	..	..	..	..	..	14	17	5	4
St. Louis, Mo.	Mar. 7.	460,000	183	13	..	..	..	..	..	1	4	5	2	....
Baltimore, Md.	Mar. 7.	455,427	147	17	..	..	..	..	..	1	..	8	1	3
Boston, Mass.	Mar. 7.	448,477	201	25	..	..	..	..	..	3	1	4	2	2
Cincinnati, Ohio.	Mar. 6.	325.000	74	13	..	..	..	..	..	2	..	9	..	....
Cleveland, Ohio	Feb. 7.	269,073	81	12	..	..	..	..	..	4	..	7	..	....
Cleveland, Ohio	Feb. 14.	269,073	83	8	..	..	..	..	..	1	1	..	..	2
Cleveland, Ohio	Feb. 21.	269,073	96	10	..	..	..	..	..	5	1	4	..	....
Cleveland, Ohio	Feb. 28.	269,073	96	14	..	..	..	..	..	4	1	4	1	....
New Orleans, La.	Feb. 14.	254,000	114	17	..	..	..	..	..	..	..	1	1	...
New Orleans, La.	Feb. 21.	254,000	121	18	..	..	..	..	..	1	..	..	4	....
Detroit, Mich.	Mar. 7.	250,000	71	5	..	..	..	..	..	..	..	5	..	....
Washington, D. C.	Feb. 28.	250,000	80	....	..	..	..	..	..	..	..	5	7	2
Louisville, Ky	Mar. 7.	227,000	64	10	..	..	..	..	..	..	..	2	..	....
Milwaukee, Wis.	Mar. 7.	220,000	83	6	..	..	..	..	..	1	..	9	..	6
Detroit, Mich.	Feb. 28.	205,669	73	....	..	..	..	..	..	..	..	1	..	....
Minneapolis, Minn.	Mar. 7.	164,738	45	....	..	..	..	..	..	1	..	2	1	....
Rochester, N. Y.	Mar. 7.	138,000	35	....	..	..	..	..	..	..	..	2	..	....
Providence, R. I.	Mar. 7.	135.000	52	....	..	..	..	..	..	2	..	2	..	....
Indianapolis, Ind.	Feb. 27.	130,000	42	4	..	..	..	..	..	..	1	2	..	....
Indianapolis, Ind.	Mar. 6.	130,000	49	4	..	..	..	..	..	1	2	8	..	....
Richmond, Va.	Mar. 7.	85,000	41	10	..	..	..	..	..	1	..	..	..	....
Toledo, Ohio.	Mar. 6.	82,652	25	....	..	..	..	..	..	..	..	1	..	....
Nashville, Tenn	Mar. 7.	76,369	29	....	..	..	..	..	..	..	..	..	2	1
Fall River, Mass.	Mar. 7.	75,000	25	4	..	..	..	..	..	..	..	1	..	....
Lynn, Mass.	Feb. 28.	55.727	17	2	..	..	..	..	..	..	..	1	1	....
Lynn, Mass.	Mar. 7.	55,727	16	2	..	..	..	..	..	..	..	2	..	....
Charleston, S. C.	Mar. 7.	54,592	25	1	..	..	..	..	..	..	..	..	1	....
Galveston, Texas.	Feb. 27.	40,000	17	2	..	..	..	..	..	..	..	..	..	....
Galveston, Texas.	Mar. 6.	40.000	9	....	..	..	..	..	..	..	..	..	..	....
Portland, Me.	Mar. 7.	40,000	17	....	..	..	..	..	..	..	..	..	..	....
Mobile, Ala.	Mar. 7.	40,000	9	3	..	..	..	..	..	..	..	..	..	....
Binghamton, N. Y.	Mar. 7.	35,000	14	1	..	..	..	..	..	..	..	..	..	....
Auburn, N. Y.	Feb. 28.	25,887	6	2	..	..	..	..	..	..	..	..	..	....
Auburn, N. Y.	Mar. 7.	25,887	10	2	..	..	..	..	..	..	..	..	..	....
Newton, Mass.	Feb. 28.	24,375	5	...	..	..	..	..	..	..	..	..	..	....
Newport, R. I.	Mar. 5.	19.449	3	....	..	..	..	..	..	..	..	..	..	....
Rock Island, Ill.	Mar. 1.	17,000	4	....	..	..	..	..	..	..	..	..	..	....
San Diego, Cal.	Feb. 21.	16,000	1	....	..	..	..	..	..	..	..	..	..	....
Pensacola, Fla.	Feb. 28.	15,000	4	1	..	..	..	..	..	..	..	..	..	....

The New York Academy of Medicine.—At the next meeting of the Section in Laryngology and Rhinology, on Tuesday evening, the 24th inst., Dr. Francis J. Quinlan will report A Case of Convergent Squint corrected by a Modified Adams Operation for Deflected Septum, and Dr. Jonathan Wright will read a paper on Tracheal Syphilis, with a Report of Two Cases and Exhibition of Specimens.

At the next meeting of the Section in Obstetrics and Gynæcology, on Thursday evening, the 26th inst., Dr. Malcolm McLean will read a paper on The Placenta, Funis, and Membranes—some Remarks on their Influence in Gestation and Parturition, and Dr. Grace Peckham will read a paper on Pessaries, their Use and Abuse.

The late Dr. Hosmer Allen Johnson, of Chicago.—The following resolutions were adopted by the faculty of the Chicago Medical College, at a meeting held on the twenty-eighth day of February, 1891:

Resolved, That by the death of Hosmer Allen Johnson, M. D., LL. D., the Chicago Medical College has lost the services of one of its founders and most active, able, and eloquent teachers; the Northwestern University one of its wisest trustees and councilors; the medical profession one of its most learned, honorable, and influential members; and the community one who for nearly forty years has been an active, skillful, and untiring benefactor to the suffering, alike in peace, in war, and in the midst of the direst of conflagrations.

Resolved, That to his bereaved family and friends we tender our most sincere and abiding sympathy and the assurance that their temporal loss is his eternal gain.

Resolved, That the secretary of the faculty furnish a copy of the foregoing resolutions to the family of the deceased and to the medical and other periodicals of this city.

N. S. Davis, M. D., LL. D.,
[Signed.] Edmund Andrews, M. D., LL. D.,
Ralph N. Isham, A. M., M. D.,
Committee.

To Contributors and Correspondents.—*The attention of all who purpose favoring us with communications is respectfully called to the following:*

Authors of articles intended for publication under the head of "original contributions" are respectfully informed that, in accepting such articles, we always do so with the understanding that the following conditions are to be observed: (1) when a manuscript is sent to this journal, a similar manuscript or any abstract thereof must not be or have been sent to any other periodical, unless we are specially notified of the fact at the time the article is sent to us; (2) accepted articles are subject to the customary rules of editorial revision, and will be published as promptly as our other engagements will admit of—we can not engage to publish an article in any specified issue; (3) any conditions which an author wishes complied with must be distinctly stated in a communication accompanying the manuscript, and no new conditions can be considered after the manuscript has been put into the type-setters' hands. We are often constrained to decline articles which, although they may be creditable to their authors, are not suitable for publication in this journal, either because they are too long, or are loaded with tabular matter or prolix histories of cases, or deal with subjects of little interest to the medical profession at large. We can not enter into any correspondence concerning our reasons for declining an article.

All letters, whether intended for publication or not, must contain the writer's name and address, not necessarily for publication. No attention will be paid to anonymous communications. Hereafter, correspondents asking for information that we are capable of giving, and that can properly be given in this journal, will be answered by number, a private communication being previously sent to each correspondent informing him under what number the answer to his note is to be looked for. All communications not intended for publication under the author's name are treated as strictly confidential. We can not give advice to laymen as to particular cases or recommend individual practitioners.

Secretaries of medical societies will confer a favor by keeping us informed of the dates of their societies' regular meetings. Brief notifications of matters that are expected to come up at particular meetings will be inserted when they are received in time.

Newspapers and other publications containing matter which the person sending them desires to bring to our notice should be marked. Members of the profession who send us information of matters of interest to our readers will be considered as doing them and us a favor, and, if the space at our command admits of it, we shall take pleasure in inserting the substance of such communications.

All communications intended for the editor should be addressed to him in care of the publishers.

All communications relating to the business of the journal should be addressed to the publishers.

THE NEW YORK MEDICAL JOURNAL, MARCH 28, 1891.

Original Communications.

CONSTITUTIONAL CONDITIONS COMBINED WITH AMETROPIA THE CAUSE OF ASTHENOPIA.

By D. B. St. JOHN ROOSA, M. D., LL. D.,

PROFESSOR OF DISEASES OF THE EYE AND EAR IN THE NEW YORK POST-GRADUATE MEDICAL SCHOOL; SURGEON TO THE MANHATTAN EYE AND EAR HOSPITAL.

We are at least making some advance in our knowledge of the true place of abnormal ocular conditions in the causation of disease when the statements so widely made in this country only a few years ago, that they were the real causes of most of the neuroses, are pretty generally abandoned. The most that is now contended for by the authorities who attach a high importance to the want of equilibrium of the ocular muscles is that they produce a set or series of symptoms limited to the eyeballs, the lacrymal passages, the orbits, and the head, and comprehended under the term asthenopia. As is well known to the readers of the *New York Medical Journal*, it is my belief that in the refractive condition of the eyes will be found the source of any insufficiency, or of any want of equilibrium of the muscles of the eyeball, and that we must logically seek for relief by modifying the influence of the cause—that is to say, by correcting the error of refraction. It goes without saying that in this statement I exclude paresis dependent upon disease at the origin or along the course of the muscles—for example, syphilitic or rheumatic paralyses.

Nor am I at all singular in this belief. Many ophthalmologists, after years of trial of prisms, both as means of gymnastic exercise to the muscles and as correcting glasses, and of tenotomies, have finally come to the belief that all which can be locally done for asthenopia not dependent upon actual disease is to correct the refractive error, especially the astigmatism which is so commonly associated with hypermetropia. I make this statement because Professor Woodward,* in his article upon Muscular Asthenopia, does me too much honor in saying that prior to my publications "the generally accepted opinion of ophthalmologists was that the causation of asthenopia is twofold." The view that ametropia, and not alone hypermetropia, is at the bottom of asthenopia, that the muscular conditions so much overestimated and to which such a pompous nomenclature has been given, are secondary to refractive conditions, is not a singular or a new one. Javal holds it, and has for years. It is certainly logically deduced from the writings of Alfred Graefe. Of four speakers on this subject at the late meeting of the New York State Medical Society, Callan, Mittendorf, and myself hold substantially the same views. Dr. Lewis H. Dixon, of Boston, a member of the American Ophthalmological Society, in writing upon my paper upon The Relation of Errors of Refraction, etc.,† says in a letter to me, dated December, 1890:

"I have been greatly interested in it (the paper on Muscular Asthenopia), for it so exactly expresses my own opinion on the subject. I have long been an intense believer in the benefits resulting from the correction of very small errors of refraction, particularly of astigmatism. I have seldom met with cases of asthenopia otherwise explained where careful search did not reveal an appreciable error, the correction of which almost always relieved the trouble, and insufficiencies of various kinds disappeared.

"Aided by homatropine, retinoscopy, and Javal's ophthalmometer, I have often found slight refractive errors, making the eyes unequal, where less persistent search has failed, and the results of correction have surprised the patients and me. Very sincerely yours,

"L. S. DIXON."

After hearing my remarks upon this same subject in the Ophthalmological Section of the late Berlin Congress, Dr. Berry, of Edinburgh, said that he coincided almost completely with the opinions which Dr. Woodward believes will "prove harmful to many deserving patients," "in whose interest" he states that his reply to my papers is written. But, although I am not alone in my views, and although I believe the trend in opinion in all ophthalmological circles is toward the consideration of insufficiencies as effects of errors of refraction and not as causes of asthenopia, it must be admitted that only very lately muscular asthenopia has been generally supposed to exist and to deserve a separate classification. But there must be a time when opinions undergo revision, especially in a department of medicine like ophthalmology, which really became a science, as far as errors of refraction and accommodation are concerned, only about thirty-five or forty years ago. It is not probable that the last word will be said in these affections for many a year to come. I can not consider it any argument in favor of any opinion on asthenopia that it has been for some time accepted. As I have already stated in my original paper, it was Donders who broke in upon the general practice of referring all asthenopia to the muscles, and demonstrated that generally, at least, it was to be referred to errors of refraction and accommodation. He hinted very plainly his belief that in fixed conditions, or comparatively fixed conditions—such as errors of refraction—would be found the most frequent sources of asthenopia. I have simply gone a step further, and with Javal, whose authority is generally recognized as no mean one, and with Bull, of Paris, one of Javal's colleagues, I have carried Donders's views to their logical conclusions. I believe that muscular insufficiencies and want of muscular equilibrium are very common, but they are dependent upon the shape of the eyeball or upon its refraction, just as strabismus depends upon myopia, or hypermetropia, or upon hyperopic or myopic astigmatism.

Professor Panas, of Paris, told me last summer, what all close observers of strabismus will, I think, be ready to confirm—that astigmatism was usually the exciting cause of strabismus. Not only is this true, but those who attempt to relieve squint and so cure binocular vision may save themselves much needless trouble in the use of prisms in those cases that can be corrected without a tenotomy if they will correct the astigmatism and then allow the muscular insufficiencies to correct themselves. If errors of refraction cause such marked insufficiencies as strabismus, why do they not logically cause the lesser degrees of insufficiencies? There is no axiom more accepted in logic, as well as in mathematics, than that the greater includes the less.

---

* *New York Medical Journal*, Feb. 7, 1891.

† *Ibid.*, April 19, 1890.

Dr. Woodward's *a priori* argument seems to me to beg the whole question. He takes for an example a patient whose eyes are emmetropic, but whose ocular muscles are not in a state of normal equilibrium. We differ at the start. I can not accept any conclusions drawn from the premise that the human race contains any considerable percentage of emmetropes. Emmetropia has been proved to be the rarest of conditions. I myself had something to do in originating the investigations that indicate this in my paper published in 1878,* entitled An Examination under Atropine of the Refractive State of Eyes with Normal Vision $\frac{20}{20}$, and which has never been affected with Asthenopia or Inflammation. This paper and later investigations by other ophthalmologists embracing many cases and more thorough examinations, especially as to astigmatism, have brought most ophthalmologists to believe what I have stated above—that emmetropia is an exceedingly rare condition. Writers upon this subject should at least attempt to invalidate the statistics of those who assert that emmetropia is an ideal rather than a real condition before they base so many arguments upon what we think have been proved to be incorrect premises.

Noyes, a writer for whom we all have great respect, in a paper upon Muscular Asthenopia, just published,† finds forty-seven per cent. of emmetropia. I do not know of any other recent authority who shares his views. Four, instead of forty, per cent. would be the most that I would admit. Of fifty persons recently examined for me by Dr. A. B. Deynars, one of my assistant surgeons at the Manhattan Eye and Ear Hospital, thirty-three had astigmatism, saying nothing of hypermetropia and myopia, and they were all carefully chosen as persons who never suffered from asthenopia.

It is, I think, begging the whole question at issue to urge as an argument that the determination of hypermetropia and myopia is thoroughly understood by any competent ophthalmologist. The question in this discussion is in part, What constitutes ametropia and how is it detected? When an ophthalmologist assumes that emmetropia is a frequent condition of the eyeball, that a low degree of astigmatism is no invalidation of this statement, and that muscular insufficiencies are independent conditions not resulting from errors of refraction, to my mind he never can form correct conclusions as to the causes of asthenopia except by sheer accident.

The speedy and accurate determination of the degree of corneal astigmatism and its axis in a given case was the last thing to be done to enable us to thoroughly study the local causes of asthenopia. This has been accomplished by the perfection of the ophthalmometer, an instrument invented in a crude form by Helmholtz, but adapted to general use by Javal. All the previous methods of determining the existence, degree, and axis of astigmatism, after twenty-five years of experience, I consider much inferior to this.

Donders said that hypermetropia was at the bottom of asthenopia. He was right in so far as local causes are at the bottom of this affection; but hypermetropic astigmatism must be included to make this statement complete. If this is so, how important to exactly determine when it exists! The ophthalmoscope and retinoscope in the hands of the most skillful observers, such observers as the late Dr. Edward G. Loring, as he himself said, often gave unsatisfactory results.*

They are subjective methods. The test by atropine or other mydriatics remains the only certain one. This is troublesome and tedious to a degree, but it is certain. Yet no one who has been released from the necessity of its employment will fail to be grateful. The letter of Dr. Lewis in the Journal of February 21st clearly sets forth the merits of the ophthalmometer, as did the paper of Dr. Speakman read before the Academy of Medicine in the autumn of 1890; but I wish now to speak of the instrument again with relation to this discussion. A release from the use of atropine and so forth is afforded by the use of Javal's ophthalmometer. In the hands of those who have carefully practiced its use, it simplifies the problem of the determination of astigmatism very much. The cornea can be adequately illuminated by it, even in a large city, by means of ordinary daylight during the working hours of almost all the days of the year. With such offices as are easily obtained in small towns, none but the most stormy days prevent its use. By the aid of electric light we are able to use it in any weather. To use the ophthalmometer with exactness, however, one must spend a little time in practicing with it It is not necessary to paralyze the accommodation, except in the very rare cases of spasm, and then for therapeutic purposes, if we can once exactly determine the degree of astigmatism. This is the key to the problem in the diagnosis of the causes of asthenopia; with that solved, we can soon determine by the ophthalmoscope or the test letters, without the use of any mydriatics even once, whether to advise a convex or concave cylinder, and whether or not an additional spherical will be needed.

The limits of any ordinary article will not allow of a further discussion of this point; but the members of my staff at the Manhattan Eye and Ear Hospital are giving, at every one of my clinics, demonstrations of the truth of what I am now stating.

I do not now use atropine for the determination of the degree or kind of an error of refraction once, when I formerly used it thirty times. But let me not be for one instant misunderstood. The causes of asthenopia in many cases are more far-reaching than can be found solely by the investigation of errors of refraction. My position has been for years that, in many cases, asthenopia is only one of many neurotic conditions in the same individual. Let it be granted that ametropia is the most frequent condition of the human eyeball, and this or some statement like it must be true. If all the world is ametropic, and only a fraction asthenopic, ametropia alone can not always be the cause of asthenopia. Those asthenopes with trifling degrees of astigmatism or hypermetropia who are cured by glasses, those asthenopes who are relieved by prisms and tenotomies, are benefited by suggestion ; but that tenotomy becomes a dangerous method of even this form of treatment, many of us can testify from having seen its results in diplopia and an aggravation of the neurotic condition.

---

* *Transactions of the American Ophthalmological Society*, 1878.

† *Ibid.*, 1890.

* *Text-book of Ophthalmoscopy*, p. 16.

The treatment by glasses, whether cylindric or prismatic, is a safe one at least. But tenotomies, whether *graduated* or measured, for anything but actual deformity, are a delusion and a snare. In fact, I do not believe at all in such a thing as a graduated tenotomy.

The certain something in the general condition which makes the grasshopper a burden, and which causes asthenopia to result from the most trifling errors of refraction, especially from astigmatism, is sometimes bad hygiene in children, or sexual perversions in youth, or any kind of nervous exhaustion in youths or adults. The wiser a physician the oculist is, the better he will do for asthenopia coexistent with ordinary errors of refraction. A mechanic may soon learn to correct myopia, manifest hypermetropia, and astigmatism, but a philosopher, with a broad medical education, will always be required to treat what may be called American asthenopia. The whole human physiology does not depend upon the eye and its functions. The eye is the light of the body, but the want of co-ordination of its muscles, and its so-called errors of refraction, do no harm at all to the health of the ordinary human being.

It only remains for me now to end my reply to Dr. Woodward by an analysis of the six cases which he believes substantiate his views. It is not probable that they will seem to do this to me, for it is many a year since I began the study of asthenopia. I have used prisms and tenotomies, and I have examined many cases in which they have been used. For the last few years I have replaced prisms by cylinders and have abandoned tenotomy for all latent affections of muscles, reserving it for strabismus, and I am now better satisfied with my results than ever before. It is not likely that six or sixty cases reported by another authority will change my views, unless I see in his cases that I have overlooked important points which I find to have been observed in the cases of the believers in muscular asthenopia. I do not find such points in the cases of the previous series published by Dr. Woodward; on the contrary, I find his methods defective and, to my mind, inaccurate. I changed my views after a careful study of thousands of cases, some of them watched for several years. My studies, as published in various papers, show, I think, a logical pathway to the road I am now upon. But, in justice to my opponent, I must pay some attention to the cases adduced by him as unanswerable arguments.

If we take the six cases that are presented as types of what may be done by graduated tenotomy, we see about this:

Case I.—The first patient is a physician whose age is not stated. He complains of smarting and burning, and a jerking of his head to the left. He is myopic; there is no mention of whether he has any astigmatism or not. A prism of 1°, base downward, before the right eye, stops the spasmodic jerking of his head. Four days later the jerking is less marked. He had jerked it three times during the examination. Twelve days later the jerking of the head has practically ceased, but a graduated tenotomy is performed in the right superior rectus. Six days after, the head has not jerked since the last visit. Nine days after this, it has jerked half a dozen times since the last visit, and then the right inferior rectus is divided. Twenty-three days after, there is no jerking of the head, and finally, *about nine months after the first interview*, the patient himself says his head jerks very little now. But if he gets excited or tired it increases in its movements. Very seldom does he bend over, as in auscultation, but that it will jerk two or three times. He is relieved of the burning of his eyes, and he can use his eyes in comfort while reading.

Certainly this is not a very marked relief of the general nervous system, considering all that has been done. It is, in my opinion, a case of general nervous disease uncured, with which the eyes have very little to do.

Case II is that of a lady, whose age also is omitted, who has always suffered from headache and pain in the back of the head, especially after using her eyes. She has double vision and dizziness. She has half a diopter of astigmatism *against the rule* on the right side, and none on the left. The next day she appeared to have astigmatism in each eye, in both instances *against the rule.* Three days after, still astigmatism, but varying in degree. She objects to the use of atropine; therefore, glasses plus one half a diopter, axis 180°, are ordered for each eye; relief was partial until six months later, when, after using them constantly for six months, she gets perfect relief. The next year, not being cured, this patient is put under atropine, and then she is found to have hyperopic astigmatism with the axis exactly opposite what was first recorded. Now the astigmatism *is according to the rule* (axis 90°). Certainly the use of Javal's ophthalmometer would have avoided this mistake. It is very difficult to conceive how she got much benefit from the glasses, when, according to the atropine test, which the author, with almost all others, believes to be crucial, she had been wearing the wrong ones for six months. Finally the astigmatism is properly corrected, but the headache continues; and then graduated tenotomy is performed, and some four days afterward she reports that she has not had a severe headache since the operation. Twice she has had mild headaches, however.

Case III is that of a lady, age again not stated, who is anæmic, has headaches, who has astigmatism against the rule in each eye—that is, myopic astigmatism, axis 90°. This is to me an extraordinary condition of things, because her vision in the right eye is $\frac{20}{20}$, and in the left eye $\frac{20}{30}$ without glasses. It is very rare indeed that there is myopic astigmatism with the axis 90° with such vision. We may be forgiven for questioning the correctness of the estimation of the kind of astigmatism in such a case as this. Spasm and hyperopic astigmatism, but not myopic astigmatism, present these symptoms. No relief came from the glasses prescribed, and, seventeen days after, the left internal rectus is divided ; twenty-two days after, the right internal rectus. She takes a great deal of iron, and eleven days after she does not suffer from headache, but, if she uses her eyes excessively at night, she is apt to have headache, and she does not wear her glasses, which is very wise, if our supposition as to her actual refraction is correct.

Case IV.—A miss, age unstated, with twitching of the lids, nearly constant headache, and anæmic. She has vision of $\frac{20}{20}$, but she accepts concave cylinders of a quarter of a dioptre in one eye, and a convex in the other of the same power. Convex cylinders are ordered without benefit, or with slight. Blaud's iron pills are given in large quantities, but, nine months after, graduated tenotomy of the right internal rectus is performed. A prism of 2°, base out, is prescribed for each eye; medicine is stopped. Two months after this the left internal rectus is divided. Finally, nine months after this, according to her own account, she is again in trouble with her eyes. She says: "In some way or other I strained them, and since then have not attended school, but it is only since I strained them, probably through carelessness, that they troubled me." This certainly is not a very promising result for a patient who has submitted to two tenotomies and been under treatment for eleven months.

Case V.—A gentleman, age unstated, headache after reading, occasional diplopia, vision in each eye $\frac{20}{20}$, a quarter of a diopter of astigmatism in each eye. A prism is ordered 2°, base inward. In about two weeks the right external rectus is divided, and prisms are used for exercising the internal recti. In about two months this patient has given up his glasses, has no headaches, and his health is better. This is undoubtedly a good case, but one would not like to cause a great deal to depend upon it. An operation was proposed for him, but it was rejected. He also seems to have been an astute patient, for he recovered without it. To my mind, the diplopia in this case probably depended upon hyperopic astigmatism. Finally the patient will find an oculist who will correct his astigmatism, and he will leave off the awkward prisms and be more comfortable.

Case VI.—The last case is that of a lady, age unstated, with asthenopia and headaches. General health excellent; vision normal; rejects all glasses. No error of refraction detected with the ophthalmoscope. A prism is ordered of 1°, base down, for the right eye, and for the left a half degree, base up. Nine months after she is able to use her eyes for any length of time without any uncomfortable feelings.

This is the only case of the series in which no tenotomy has been performed; the strength of the prisms will be noted—one degree in one, and half a degree in the other. As I said in my original article, I still can not understand how prisms so weak as this will have any more than a suggestive result in treatment. If they have, cylindric glasses will do better.

I seriously ask the student of asthenopia to look over the six cases in the light of these criticisms, and answer if he can find in them any ground for the justification of the value of graduated tenotomies or prisms. I can not.

To recapitulate my argument:

1. I believe that the general nervous condition, especially the nutrition of the nervous system, will have very much to do in determining the causes of asthenopia, even in the cases with considerable errors of refraction. I point to the asthenopia after typhoid fever, which finally disappears without any special treatment, as an index to what is meant by this conclusion.

2. In what is comparatively a fixed condition—that is to say, a decided deviation from the ordinary standard in the eyeball—is, to my mind, a most probable local source of asthenopia. Muscular insufficiencies result from these deviations. This is illustrated in a marked way in strabismus.

3. The ophthalmologist must not ignore the fact that the standard of emmetropia laid down by the writers from 1850 to 1875 is incorrect. Since then it has been pretty clearly shown, and is capable of wide demonstration, that ametropia exists in at least 90 per cent. of the human race.

4. It must not be forgotten that neurotic patients will submit to any treatment, even to ocular tenotomies, month after month, and year after year, in the vain hope of finally achieving what is impossible for some individuals—that is, the use of the eyes as long as they choose under any conditions without any discomfort, or until they derive complete immunity from ailment and pains, which heredity, evil habits, or environment render impossible. Patients can not be made over. An admission of this, and less ambitious hopes for the cure of neuroses, will prevent the profession from making statements that only serve to bring our scientific name into disrepute.

SOME FACTS RELATING TO THE CAUSES AND CURE OF SLEEPLESSNESS.

By AMBROSE L. RANNEY, M. D.

A persistent loss of sleep is generally recognized, and properly so, as one of the most dreadful of human afflictions.

The recuperation of vital forces that takes place during peaceful slumber constitutes the basis of both mental and physical health. "Tired Nature's sweet restorer—balmy sleep," comes from natural causes as an unbidden but welcome guest to the many that would otherwise be unable to bear the burdens of each day.

To those who are robbed of sleep, however, from causes that may appear obscure, the struggle of life sooner or later ends in physical or mental disease. It entails upon them too often the distressing results of the opium or chloral habit, and, in many instances, a sudden termination of their misery by suicide.

There is probably no physical condition that the educated physician is so often unable to combat successfully as a persistent tendency toward insomnia.

Many thousands of sufferers of this class are to-day exiled through medical advice from their business interests, traveling for needed rest or enduring a wretched existence in uncongenial surroundings far from their homes and friends, too often at sacrifices that they can ill afford to bear; simply because medicine in their special case has proved incapable of combating an inability to obtain the eight hours of peaceful slumber that health demands.

Again, it is chiefly among the intelligent and educated classes that this form of suffering is encountered.

Those by whom, in consequence of their mental endowments, the greatest successes might be and often have been achieved, by whom the greatest pleasure can be obtained out of life and alike bestowed upon others by their mental and social prominence, upon whom the greatest responsibilities are of necessity imposed, and in whom the greatest capabilities of suffering and patient enduring exist—these are too often the ones that turn in their despair to the physician for relief from this dread enemy that shatters hope, paralyzes industry, impairs the judgment, imperils large financial enterprises, embitters life, and casts a gloom over their present and their future.

The explanation of the fact that brain-workers (as opposed to muscle workers) are peculiarly disposed to insomnia, lies chiefly in the constant strain that is imposed upon the organ of the mind; but this does not necessarily justify the conclusion (too frequently arrived at by medical men) that the brain-cells, or the blood-vessels that feed the brain-cells, are the seat of actual disease.

Any expenditure of nervous energy in excess of that generated from day to day (irrespective of where the excessive expenditure occurs) may in time so deplete the reserve capital of nerve force in any individual as to embarrass the workings of some part or parts of the nervous system without any actual disease being present. The result of this temporary "nervous bankruptcy" is peculiarly apt to disclose itself in some derangement of the normal function of the weakest part—as an echo is heard far from the source of the echo.

Let us cite, as an apt illustration of what I mean, one of our every-day experiences:

An upright business man, with a stated income, has, from certain extravagances, etc., spent not only in excess of his income for many years, but has gradually encroached upon his capital. He grows moody, reticent, and irascible, and becomes almost imperceptibly an altered man. His friends, ignorant of the cause of the change, gradually become distant and fewer in number, Social estrangements, domestic unhappiness, a general loss of esteem, and many other complications then begin to arise day by day and month by month, until the individual falls from the high position that he once occupied with warrantable pride. Now, what has caused this fall, and what is the remedy? Unquestionably, to every thinking mind, the initial and underlying factor in all the ultimate results would be the excessive expenditure of money. The cure, moreover, lies in stopping the initial cause, with the hope that time and prudent living will restore not only the impaired business capital, but likewise the cheery nature and honest manhood that originally gained the individual his high position, and that can alone restore it to him.

The reader may possibly fail at first to see the application of this illustration to the subject at issue. He will see it in a clearer light when I submit the following proposition, which I shall endeavor to sustain by a report of cases that have come under my observation. This proposition I would present as follows:

Clinical evidence goes to show that a large proportion of subjects affected with persistent insomnia of long standing suffer from some congenital defect of the eyes themselves or from an improper adjustment of the muscles that move the eyes.

In many incurable cases of insomnia this constitutes the underlying factor that entails an excess of nervous expenditure from the date of birth until death (if not properly rectified). In time it materially tends to exhaust the normal reserve capital of nervous force of the individual.

When we stop to reflect, we can understand how every letter on a printed page, as well as every object on the street, or in our homes, that we become cognizant of by the sense of sight requires a more or less perfect adjustment of the complicated muscular apparatus that so regulate the eyes in relation to each other as to enable them to see with both and yet perceive but a single image.

The total *aggregate of such visual perceptions* during the sixteen hours of each day that we use the eyes is enormous; and it means a proportionate number of accurately performed adjustments of two cameras (the eyes) upon a single object, performed often with marvelous rapidity, and involving in many of the adjustments a complete change of combinations in the eye muscles that are successively brought into play. It is not much of a task to lift a penny once, but no living being could lift a penny a million times each day.

Now, Nature has so accurately balanced the relative power of each of the various eye muscles in a perfectly constructed being, and has so beautifully constructed the eyes as regards their focus, that the expenditure of nerve power (in the case of such an individual) required to perform the necessary eye movements throughout each day is reduced to a minimum, although necessarily very large as compared to the amount expended upon any other organ in the body.

But, when the adjustment of the eye muscles or the construction of the eyes themselves is so imperfect that the maintenance of single vision (when both eyes are simultaneously used) is the *result of an excessive expenditure of nerve-force* (far greater than Nature intended in many cases), any individual so afflicted begins from birth either to draw from the "reserve capital of nerve-force" that Nature has stored up for emergencies, or the eyes must be run at the expense of a proper nerve-supply to some other part (Peter being robbed to pay Paul).

Three factors then enter into the proposition as to how long a time can elapse before the serious influences of such a leak of nervous energy will be felt in any given case where the eyes or the eye-muscles are abnormal. 1. How much excess of energy over the normal amount is required to compensate for the defects connected with the sense of sight. 2. How much "reserve capital" of nerve-force the individual starts out in life with. 3. How much nerve-force the individual can generate day by day to meet the daily expenditure.

A child inheriting one hundred thousand dollars at birth could have expended upon him one thousand dollars per year in excess of his income without feeling the lack of money for one hundred years; but if the excess of expenditure be increased to five thousand dollars over his income, bankruptcy would stare him in the face when he attained his majority.

A serious defect of construction in one or both eyes, or a decided tendency of one or both eyes to deviate from parallelism with its fellow, may entail upon an individual a leakage of nervous force that is apt to produce in time very sad results upon the general health.

It is not my intention in this article to ignore the fact that many cases of sleeplessness can apparently be attributed to overwork, business cares, anxiety, or similar forms of nervous strain as a factor in its causation. Neither would I overlook the fact that organic disease of the kidneys and diabetes often manifest their onset by a persistent tendency toward wakefulness.

I desire simply to emphasize the fact that "eye-strain" constitutes in a large proportion of such cases a factor that is often unrecognized or ignored by medical men.

Some twelve months ago I published a contribution relating to the causes of epileptic seizures, from which I make the following extract: *

> The necessity of knowing more about the refraction of the eye and the condition of the eye muscles is impressing itself daily upon many of our progressive practitioners as well as the specialists.
>
> The field of the oculist is of necessity a large one. It will not be restricted by a wider dissemination of knowledge of the apparatus of sight among the body of general practitioners.
>
> Within the next twenty years we will see every specialist of note in nervous diseases more or less expert in testing refraction for himself, and determining, without outside aid, the existence of defective equilibrium of eye muscles. He need not be an oculist, in the true acceptation of that term. Diseases of the eye properly belong to a specialty, and are best treated by those who see the most patients of that class. But the nervous specialist should know, and sooner or later will be forced to know, whether his patient has near-sightedness, far-sightedness, or astigmatism to complicate matters, and if the eyes tend to deviate from their normal and physiological conditions. The more he studies these conditions, the more will he find to interest him, and much to relieve that is now too often unrecognized in the sufferers who apply to him for aid. He will cease to give pills to patients with from three to twenty poisonous alkaloids combined, on the principle that the sportsman adopts when he uses a handful of shot, hoping that one may perchance kill his bird. He will study his cases more intelligently, and delve less into works of therapeutical speculation. This view is neither Utopian nor visionary. Neither is it the result of rash enthusiasm, but an earnest conviction that has come after years of patient inquiry and careful observation in a large number of patients suffering from nervous derangements.
>
> A famous French philosopher seems to have fully realized the absurdities of purely therapeutical medicine when he said:
>
> "Nature fights with disease a battle to the death. A blind man armed with a club—that is, a physician—comes in to make peace between them. Failing in that, he lays about him with his club. If he happens to hit disease, he kills disease. If he hits nature, he kills nature."

The time has passed, I think, when the blindness of prejudice against the views advocated in this paper holds sway as strongly as in the past among the leading minds of the medical profession. From many sources, both here and abroad, abundant confirmatory evidence of the truth of this doctrine is being published from time to time, showing conclusively that defects of the eyes and eye muscles do constitute an important factor in the causation of many forms of obscure nervous diseases. Those who still oppose this view most vehemently have, in many instances, shown by their writings gross ignorance of the methods employed to decide the points at issue.

It took Lister and his followers some ten years to teach the profession that, if the antiseptic method was to be tested as a basis for adverse criticism or for the benefit of suffering humanity, the operator must clean his finger-nails; that he must also wash his hands with great care, make his knives aseptic, and follow out the published plan of procedure with due regard to detail before the results obtained could be worthy of publication or in any way reliable as a basis of scientific deduction.

To what extent the leaders of the medical fraternity willingly lend their ears and give their earnest support to any new method of treatment [provided it consists of a drug, or of a subcutaneous injection of an agent whose component ingredients are unknown and which is adopted purely on faith] has been demonstrated during the past few months in a way that now bids fair to subject such child-like credulity to ridicule, if the ill results to humanity do not in time justify merited condemnation and rebuke.

On the other hand, any system of treatment that is based upon facts which can be determined with the same scientific precision as the computation of an astronomical problem, that is supported by well-recognized physiological laws, that has yielded and is yielding daily relief to many individual cases culled from suffering humanity which medicines have failed to afford, that has lived and steadily made progress year by year in the face of bitter and organized opposition—such a system of treatment can not now be annihilated by ridicule as a substitute for scientific argument, or impeded in its progress by the condemnation of those who have had no experience in it.

I quote again from my article relating to epileptic seizures as follows:

> Not long ago a famous orator told the following fable:
>
> "A well-fed horse who, in his greed, scattered grain upon the floor of his stall became in consequence the constant companion of a rooster who picked up the scattered oats. One day the rooster suggested that friendly relations were desirable and would be put on a much firmer basis by the existence of a solemn agreement between them. The horse assented, and on asking the basis of the compact, was told that it should read: '*Neither of us shall step on the other's feet.*'"
>
> I do not desire to carry out in full what, to my mind, might be the true application of this fable. None of us desire to stir up discord if important facts can be insured a fair hearing without recourse to asperity—but the establishment of a great truth can not be crushed by being "stepped upon."

I do not propose, in this article, to discuss at any length the optical problems (often very difficult to solve) which are liable to be encountered in subjects who suffer from serious nervous disturbances of the functional type. Neither is it my intention to review here the work that has already been done in this field by the employment of methods now in vogue, old or new.

It may be well, however, for me to mention in this connection a few of the reasons why, in my judgment, the treatment of the eyes has totally failed, in the hands of some observers, to relieve or modify some nervous conditions that had withstood judicious medication for years; and why it is that subsequently, in more experienced hands, treatment of the same patients directed to their eye muscles has led not infrequently to the happiest results.

---

* Can Eye-strain cause Epilepsy? A Report of an Illustrative Case bearing upon this Inquiry. *Boston Med. and Surg. Journal*, Jan. 2, 1890.

(1) I would call attention to the fact that *preconceived notions about old methods must be abandoned without prejudice* when a new method is to be tried.

(2) Each observer must, of necessity, make himself *thoroughly familiar with all the details of the method* which he proposes to employ before he is competent to decide *pro* or *con* respecting its merits. This can not be done exclusively by reading. No one can describe with a pen the many intricacies that are apt to arise in solving complex optical problems. It is certainly not beneath the dignity of even an eminent man to learn (by personal observation of the work of another whom he perhaps thinks is misled, and by timely suggestions thus obtained) how facts that bear upon successful treatment may be determined that were, perhaps, at first obscure and difficult to ascertain.

(3) With a full knowledge of the method, its intricacies, and its difficulties, *conclusions should never be too hastily arrived at* in any given case. It is always "better to be sure than sorry." Those who have had the largest experience may occasionally make mistakes in judgment when a peculiarly complex problem is presented for solution. How much easier is it, therefore, for one with a limited experience to fall into error! The story is told that a selection of a pilot for a vessel laden with precious merchandise which was to enter a harbor full of sunken ledges and sand-bars was once being made. One by one the applicants told a tale of uninterrupted successes. Finally, one pilot was accepted simply because he said: "I ought to know the channel, as I've wrecked a ship on every rock in this harbor."

So it is with many cases of epilepsy, chorea, insanity, insomnia, neuralgia, headaches, and kindred nervous affections. These patients have, as a rule, acquired and constantly practiced from birth *certain faulty combinations of the various eye-muscles* in order to enable them to use the eyes together.

They are often able by the aid of such unnatural combinations to *simulate* a condition of apparent equilibrium of adjustment of the eyes, although a very serious expenditure of nerve-force may be demanded of them in order to do so. They are naturally unconscious of the eye-strain, because they think everybody does as they do, in order to see. They often have no eye-symptoms. They practice these "tricks of adjustment" instinctively, not as an act of volition; and they have generally to be taught, by the aid of prismatic glasses and other recognized steps, to abandon them and thus to disclose the actual maladjustment of their eye muscles which has entailed upon them this long-continued leak of nerve-force, and later on an abnormal reflex excitability of the nerve-centers.

They are not unlike a tortuous and difficult channel in which the hidden difficulties to surmount do not always disclose themselves upon the surface. They demand and generally repay a careful and scientific scrutiny into the adjustment of the ocular muscles and latent errors in refraction. They require time and great patience on the part of the observer, as well as skill.

(4) The old methods of testing the eye muscles will have to be abandoned at no distant date. A phorometer * is now essential to all accurate work. Moreover, the separate muscles should be individually tested and their power accurately measured.

Not long since a physician who had twice collapsed from nervous prostration and insomnia at the very threshold of his professional labors came to me for advice. He showed at intervals an apparent condition of equilibrium in the orbits, but welcomed prisms for a deviating tendency of one eye above its fellow and improved rapidly under their influence. Within a week he showed unconquerable double images without his prism; and a radical step for the correction of his vertical strabismus was advised. At the advice of friends he then consulted an oculist of international repute, who not only failed to recognize the fact that the patient saw double images, but even pronounced the eyes normal in their adjustment. The description by the patient of the rough and unscientific tests upon which that judgment was made showed clearly that the oculist was either wofully negligent of his obligations to the patient, or incompetent to decide the point at issue.

Another patient upon whom I have lately performed a graduated tenotomy of the external rectus muscle with the happiest results (as it brought about a rapid and complete restoration to health), came to me originally with an eye that diverged at times, when her vision was not attentively engaged, almost to the outer canthus; yet she bore a certificate from one of the leading oculists of America that she had no defect in the refraction or adjustment of the eyes, and that her terrible headaches and difficulty in using her eyes required only constitutional treatment.

Hardly a day now passes that I do not receive from some patient written testimonials or verbal statements of the deepest gratitude for relief that has come to them through the correction of some defect in the apparatus of vision (often unsuspected by the patient); and the intensity of their expressions of gratitude is unquestionably based, in many of these patients, upon the fact that drugs had been administered to them for years, according to the latest therapeutical theories, without any perceptible benefits.

One of my warmest professional friends and an eminent medical teacher, Dr. J., whose wife has been relieved of insomnia and some other nervous symptoms of years' standing by the aid of glasses alone, writes me as follows: "Your name will occupy a prominent place in our shrine, and heaven will be continually besieged to bless both you and yours."

Another patient, at one time a hopeless victim to insomnia, writes me after an operation on an eye muscle, and the fitting of proper glasses: "I can not trust myself to think of what the final result might have been had you left me to my own will last August. I have had what I can not pay for in money, even if I could send you my check for a very large amount."

Dr. R., an eminent divine of this city, says: "I am better since your treatment than ever before in my life in my sleep, digestion, pulse, calmness, vigor, and eyes."

In the reported cases that follow, some terms are employed that may require explanation to the general practitioner, although they would be easily understood by the oculist. These are comprised in the following table:

Terms related to the focus of the eye (*refractive terms*).	HYPERMETROPIA (*far-sightedness*). A *shallow eye* (from the front to the back), causing an imperfect focus of objects.
	MYOPIA (*near-sightedness*). An *elongated eye* (from the front to the back), causing an imperfect focus of objects.
	ASTIGMATISM. An *irregularly curved cornea* or *lens*, causing distortion of images on retina.
	EMMETROPIA. A *perfectly constructed eye.*

---

* An instrument devised by Dr. George T. Stevens, and manufactured by Meyrowitz Brothers, opticians, No. 100 East Twenty-third Street, New York city.

Terms related to the muscles which move the eyes (*muscular terms*).	Esophoria.	A tendency of one or both eyes to deviate toward the nose.
	Exophoria.	A tendency of one or both eyes to deviate toward the temple.
	Hyperphoria.	A tendency of one eye to rise above the level of its fellow.
	Adduction.	The power of the internal muscles of the eyeballs. *It varies in health between 25° and 60°.*
	Abduction.	The power of the external muscles of the eyeballs. *It should be 8° in health.*
	Sursumduction.	The power of the vertical muscles of the eyeballs. *The right and left should be alike.*
Various forms of glasses employed by oculists.	Spherical.	Ground upon a *convex or concave sphere.* Used to correct hypermetropia and myopia.
	Cylindrical.	Ground upon a *convex or concave cylinder.* Used to correct astigmatism.
	Prismatic.	*Two plain surfaces of glass meeting at an angle.* The thick side is termed the base of the prism. Used to relieve errors of adjustment of the eye muscles.

I do not deem it necessary to encumber this article with a long list of cases that entail considerable time and labor upon the author without adding materially to the demonstration of the point at issue.

It has been denied most emphatically in the past by some specialists of prominence, both in eye diseases and nervous affections, that the eyes or the eye muscles have any marked influence upon nervous diseases. Statements of this kind are still made by some, both verbally and in print, with the same vehemence (based, it is to be feared, upon bitter prejudice and partisan feeling) as they were five years ago. Despite evidence to the contrary, they refuse to see what many non-partisan minds are seeing more and more clearly every day. They discard, without trial, new methods or research into complex ocular problems; they prohibit the use of instruments (that alone allow of an approach to scientific precision) from institutions that they control; and in every possible way they appear to try to mislead the line of professional thought from the main points at issue.

One thing is evident—viz., the view that "eye-strain" can and frequently does cause serious nervous conditions must be either true or false.

If it be false, then it has made steady progress in spite of its weakness and against organized and bitter opposition; if false, then the growing list of converted advocates among the younger oculists and neurologists is incapable of explanation; if false, then the thousands of suffering humanity are deceived who believe that they have cause for the deepest gratitude in the recognition and relief of an existing "eye-strain." It is contrary to all precedent that a mere "fad" should steadily flourish and gain strength year by year over a period of many years; neither does the statement that some cases have failed to be benefited by this treatment have any weight in argument. Every method of treatment of disease sometimes fails to relieve individual cases; yet no one attempts to discard all therapeutical efforts in consequence of this fact, because such a deduction would be manifestly illogical.

Case I.—Miss B., aged forty, single, lecturer.

Family History.—One sister was for over a year a victim to "complete nervous prostration." Father is a very nervous man.

Eye Defects.—Vision $\frac{20}{20}$, without atropine. Under atropine, a latent hypermetropia of + 0·75 s. in each eye. Patient had never used a glass for reading, but accepted + 1·50 spherical glass. Esophoria, 3° (which ultimately, under influence of prismatic glasses, exceeded 7°). Adduction, 23°. Abduction, 5°. R. sursumduction, 1° +. Left sursumduction, 2°. The adducting power later on exceeded 43°, and the abducting power fell below 3°. At no time did homonymous diplopia disclose itself (with or without a red glass).

History of Case.—This lady had for some years been doing an excessive amount of mental work. Her profession required an enormous amount of reading. This had been done largely at night. Although small in stature, she had always been vigorous and had taken an unusual amount of exercise. She *had always considered her eyes very strong*, and was loath to believe, when she first came under my care, that her eyes could constitute a factor in her serious nervous condition. Furthermore, she was strengthened in this belief by the fact that she had not long before consulted an oculist of prominence, who had stated that he found no defect requiring treatment or glasses, and who had sent her to one of his friends (a specialist in nervous diseases) for treatment.

The "break-down in her health" began about twelve months before she came under my care. It was attended with an extreme and persistent loss of sleep, a loss of emotional control, an utter inability to read or sew (which aggravated all her symptoms), a more or less constant headache, an inability to concentrate her intellectual faculties for any length of time, and an aggravated type of mental depression. She feared, and had every apparent reason to fear, that her professional labors were imperiled and that her mind might possibly give way. The neurologist, who endeavored to build her up by tonics, rigid diet, rest, etc., assured her (after some improvement had occurred) that he feared at first that "melancholia" might be the end of the case. At his advice, she spent the summer at the sea-shore; but, beyond a certain point, she failed to progress satisfactorily, and her headache and sleeplessness would at times be as bad as ever. Any attempt to prepare herself for her fall engagements would cause a return of her old symptoms to a very marked degree, accompanied by physical weakness, mental fatigue and depression, extreme despondency, and a lack of control over her emotions. After any attempts at study, she would frequently lie awake most of the night. This was her condition when she first came under my care.

Treatment and Results.—In this case a full correction of the hypermetropia was made for distance, and + 2·00 spherical glasses were given for reading, as she showed some failure of accommodation. Prisms of various strengths were employed over her distance and reading-glasses for about two weeks, and 7° of latent esophoria were found to exist. This was rectified by a graduated tenotomy of one internus and the prisms were then discontinued. During this interval the patient had improved very rapidly, had become very dependent upon her spherical glasses, and become cheerful and hopeful of recovery. She had, moreover, entirely regained the normal power of sleep. During this interval she had frequently slept twelve hours without awakening and without recourse to any drug. As atropine had been used during the early part of the treatment, she had been allowed during the two weeks of treatment to use her eyes very little in reading or study. During the following two weeks two degrees more of latent esophoria disclosed itself. For the relief of this defect a prism was combined with the spherical glass worn over the eye which had not been subjected to a tenotomy.

For the past five months this patient has been able to fill all her engagements without any return of her bad symptoms. She has read and studied at night, attended church and places of amusement that previously she dared not attend, has accepted more work than for some years past, and has continued to sleep well and enjoy perfect health. During this interval she has taken no medicine, nor has she been restricted by me in her diet or in any other way. Her reading-glasses have been increased to + 2·50 s.

The records of her case show that a graduated tenotomy of the internus of both eyes will eventually have to be performed, in order to properly adjust the balance between the two eyes.

During one of her last visits this patient said: "I think I am stronger to-day and have better health than I have had for many years. I certainly do my work with less fatigue, and enjoy things that my ill-health has previously debarred me from."

Case II.—W. C., aged forty-two, minister of the Gospel, married.

Family History.—Mother living (aged eighty-four). Father was a delicate man, and had headaches. One brother and one sister have severe headaches. One brother has several times broken down in his studies from eye-pain and asthenopia.

Eye Defects.—Myopic astigmatism, O. D. — 1·25 c.; O. S. — 0·50 c. Exophoria, 10°. Crossed diplopia of 4° (with red glass before either eye). No hyperphoria. Adduction, 18°. Abduction, 12°. Right sursumduction, 3°. Left sursumduction, 3°. Presbyopia (uses + 1·00 s. for reading).

History of Case.—This patient was never a very strong man and had always been a hard student. About six years ago he began to suffer from sleeplessness, confusion of thought, and an utter inability to apply himself to his work for more than a few minutes at a time. He put himself in the care of a prominent physician of this city, and at that time was examined by an oculist of note, who prescribed glasses to correct his astigmatism. These gave some temporary relief, but he soon broke down completely, resigned his position, and for many months was unable to do any work. After a long rest, he again took charge of a church, but his insomnia soon became so severe that an extended vacation was necessary. Since that time, by the most regular habits, careful diet, and daily exercise in the open air, he had been able to keep his position, although he feared a collapse at any moment. Finally, his loss of sleep, distress in his head (although he had no actual headache), and confusion of thought became so constant that he was again on the verge of resigning his position when he came to me for treatment.

Treatment and Results.—The treatment of this case consisted simply of two graduated tenotomies for the relief of the exophoria, and subsequently a reading-glass to correct his presbyopia. The result of this treatment was most gratifying. A report received from the patient within three weeks after the first tenotomy states that he "now sleeps well, and has great relief from the distress which he has so long experienced in his head."

For eighteen months past he has been doing his work with more comfort than for many years. He sleeps well, with the exception of an occasional poor night after an unusually trying day's work. He has taken no medicinal treatment.

Case III.—A. C. H., aged forty-six, manufacturer, married.

Family History.—Both parents lived to seventy-six years. Two paternal uncles died of phthisis. No hereditary tendency to nervous diseases.

Eye Defects.—Vision $\frac{20}{20}$ without atropine. Under atropine a latent hypermetropia of + 1·00 s. in each eye. Patient had never used a glass for reading. Esophoria, 5° (after using prismatic glasses for a short time, the patient showed esophoria of 13°). Adduction, 24°. Abduction, 4° +. Later on the adduction exceeded 50°, and the abduction fell to 0. Homonymous diplopia with the red glass over one eye was usually present, and at times without the red glass.

History of Case.—This patient had been a perfectly well man and had carried on a very large business up to fifteen years ago. At this time, while attending a sale in New York, he was suddenly seized with a dizziness, faintness, and a sore feeling in his head. These symptoms lasted for three years in spite of all treatment, during which time he suffered severely from sleeplessness, extreme nervousness, and soreness in his head. He was unable to look out of a car window while traveling without great distress.

He had suffered all his life from obstinate constipation, and had taken cathartics so regularly that now any cathartic water causes intestinal hæmorrhage.

When this patient first came to me he was able, by the most careful diet, regular habits, and by retiring at eight or nine o'clock, to carry on his enormous business only with the greatest difficulty because of the following symptoms: Inability to sleep at night, which at times was very distressing and persistent; extreme nervousness after the slightest fatigue; mental depression without any cause; hot flashes up and down his spine; pain in his shoulders and across his back. His insomnia was often prolonged and very exhausting after any slight excitement or fatigue.

Treatment and Results.—The treatment of this patient consisted at first of the wearing of prisms to relieve the esophoria, and latter on of graduated tenotomies on both internal recti. Subsequently, + 0·50 s. glasses were given for constant wear, and + 1·00 s. glasses for near work. The improvement in his condition was marked and continuous from the first, and he writes that he is so busy and feeling so well that he can not find time to have the slight remaining esophoria corrected. An extract from a letter received from him two months after the operation on his eyes speaks for itself. He says: "Seemingly I am all right, feeling better every day; have not had a headache for a month; appetite good and I sleep well." Over a year has now elapsed without any return of his former ill health, during which time he has constantly been engaged in active business pursuits.

Case IV.—Mrs. J., aged forty-five, married.

Family History.—Not taken.

Eye Defects.—Hypermetropia and astigmatism of + 1·50 s. $\bigcirc$ + 0 50 c. in each eye (under atropine). Right hyperphoria, $\frac{1}{4}$°. Esophoria, 0 — 1°. Adduction, 21°. Abduction, 8°. Right sursumduction, 2° +. Left sursumduction, 2°.

History of Case.—For many years patient has been a delicate woman, becoming easily fatigued, and suffering more or less after fatigue from insomnia and extreme nervous debility. For the past ten or twelve years one pupil has been very much dilated. She had consulted an oculist of prominence in Montreal concerning this condition, but his treatment failed to give any permanent benefit. During the past twelve months the insomnia and nervous prostration had become very much intensified, and the patient had become so weak physically as to alarm her family. Any attempt at walking, attending places of amusement, or making ordinary social visits were followed by a marked increase in the symptoms. Her husband, a prominent physician, feared a complete physical collapse. One pupil was found to be more than double the size of the other.

Treatment and Results.—The treatment consisted of a full correction of the hypermetropia and astigmatism for distance by glasses, which the patient was instructed to wear constantly. Under these conditions her muscular tests seemed to be modified favorably. The patient was instructed to return home and to return for further observation after wearing the glasses for a couple of months. Even before her return there had been a marked improvement in her symptoms. Two weeks after her return the following report was made by her husband: "My wife appears much better and more cheerful than for many years, the pupils are of equal size, appetite good, and the insomnia much relieved; is able to walk two miles without fatigue and enjoys the exercise, goes out evenings and feels no unusual fatigue from lectures, concerts, and sermons." A report one month later says: "My wife appears to enjoy life as she has not done for many years. There has been a very slight return of her old enemy insomnia, but not to an alarming extent. She hopes to see you again in the near future."

In this case sufficient opportunity has not yet been afforded for a complete examination of the eye-muscles. It is possible that there may be some lurking defect of equilibrium in addition to the error of focus. One thing, however, appears to be clearly established—*i. e.*, that her ill health and insomnia were directly dependent upon a condition of the eyes that had exhausted her vital forces and was keeping her in a state of extreme physical depression.

CASE V.—Mrs. W., aged fifty-five. Married.

Family History.—Not taken.

Eye Defects.—Hypermetropia, + 1·75 s. Presbyopia (uses + 4·50 s. for reading). Esophoria, 7°. Adduction, 23°. Abduction, 3° +. Later on she disclosed: Right hyperphoria, 3°; right sursumduction, 6° +; left sursumduction, 2° —.

History of Case.—This patient is the wife of a prominent physician, and, as such, has had the benefit of the best medical talent of the State in which she resides. She had always been a delicate woman up to the time when my professional opinion of the case was asked. For a year or more before I first saw her she had been a victim to nervous prostration and confined most of the time to her bed or room. Her life had been despaired of during this interval at times, and the case seemed to present problems in diagnosis which puzzled the best medical men whom she had consulted. When she had gained sufficient strength to allow of her being moved with safety, her husband was advised to take her to a Southern climate. On her way to Florida he was advised to consult me in reference to the case, when he passed through New York.

When I first saw this patient she was in a state of extreme physical and mental depression, was unable to walk for even short distances without great fatigue, was sleepless and despondent, and was brought to my office in a carriage from a hotel not far from my residence.

Treatment and Results.—At the first visit prisms were given to relieve the esophoria, and in five days a graduated tenotomy was done on one internal rectus. The patient began to feel the benefit of this step from the first. The second day after the tenotomy she reported that she had walked a mile and a half—a thing which she had not done for over a year. Five days after the first tenotomy, a second one was performed on the other internal rectus, prisms having been worn in the mean time. Two days following this the patient walked five miles, visited an art museum in the morning, and attended a theatre in the evening. In spite of the unusual fatigue and excitement, she was still sleeping well and feeling stronger than for many years. With the improvement of her general health came an entire cessation of an obstinate bladder trouble which had given her annoyance for many years, and was probably due to her weak muscular and nervous condition. The pain in the bladder, which was probably of the neuralgic type, ceased after the relief of the eye tension, and has never returned.

After an interval of four months, during which she had been comparatively well, she returned to New York to complete her treatment. A high degree of hyperphoria was found, and prisms were combined with her hypermetropic glasses to relieve it. With these glasses the patient passed eight months of almost absolute freedom from distress of any kind, when a graduated tenotomy was performed and the hyperphoria prisms removed.

At the present time she is sleeping well, is able to attend to her household duties, can walk long distances, has taken no medicine for over a year, and is regarded by her husband and friends as restored to perfect health.

156 MADISON AVENUE.

OLD TRAUMATIC DISLOCATIONS OF THE SHOULDER

TREATED BY EXCISION OF THE HEAD OF THE HUMERUS.*

By F. W. GWYER, M. D.

REMOVING the head of the humerus for the relief of various conditions produced by its abnormal position following dislocation has been so rarely reported that I have been tempted to make it the subject of my paper this evening.

My patient, Ellen McC., was born in Ireland fifty-one years ago. She is strong and robust, looking about forty-five. On June 30, 1890, she missed her footing while going down stairs and fell four or five steps, striking on her right shoulder and right side of her head. Her shoulder gave her so little pain and annoyance that she gave it no attention beyond the application of home remedies for a few days, after which she experienced but little inconvenience from pain, and had very fair use of her forearm and hand.

After the lapse of about two weeks she found her arm gradually becoming "stiffer," and she could not move it so freely. This was accompanied by an increasing pain in the shoulder, extending down the arm to the wrist. The pain and restriction in movements of the arm still increasing (pain being continuous and worse at night), she at last sought surgical relief, and was admitted to Bellevue Hospital on August 21st. She was examined by Dr. George Woolsey, the visiting surgeon then on duty, and a diagnosis of old dislocation of the shoulder was made. The day following her admission the patient was anæsthetized, and an unsuccessful attempt at reduction was made, Dr. Woolsey assuring me that all methods and as much force as he dared were used. On August 24th the patient was discharged, at her own request, unrelieved. On September 1st she returned, complaining of more and increasing pain and greater limitation of motion. Examination discovered the following condition:

The right shoulder looked angular, showing the projection of the acromion process and absence of rounding of the deltoid over the head of the humerus; in fact, the deformity with which we are all familiar as existing in dislocation of the shoulder. There was the characteristic swelling under and to the inner side of the coracoid process, and a diagnosis of intracoracoid dislocation was readily made by aid of the eye alone. On manipulation, I found motion in the joint almost negative, forward and backward movement being limited to about ten degrees, abduction possible to four inches from the trunk, and rotation entirely absent. There was paralysis and some atrophy of the deltoid and slight atrophy of the muscles of the hand, with loss of usefulness of not only the hand, but of the entire extremity; in fact, she was unable to use it in any way. The patient complained of a continuous and increasing pain, most marked at the shoulder, and extending down the forearm into the fingers, undoubtedly due to pressure on the brachial plexus. Owing to the severe pain and the very limited range of motion, with the patient's consent I decided to operate, intending to reduce the dislocation if possible, but, if not, to remove the head of the humerus.

---

* Read before the New York Surgical Society, February 11, 1891.

On September 2d the patient was anæsthetized, and, after the usual antiseptic cleansing, an incision was made along the arm from the tip of the coracoid process to about the level of the attachment of the deltoid. I was surprised, on reaching the deeper parts, to find nothing to guide me, striking a region of newly formed connective tissue extending over the whole area which I invaded. On reaching the head of the bone, I found it deeply imbedded in fibrous tissue lying close under the clavicle to the inner side of the coracoid process and resting upon the ribs. The greater tuberosity had been broken off, but remained connected to the head by fibrous tissue. I removed the tuberosity, and then attempted to free the head sufficiently to raise it out of the wound. This, however, could not be done, so the shaft was freed just below the surgical neck and the bone divided with a chain-saw. The neck was then grasped with a pair of strong forceps, and, after a good deal of hard work with a periosteal elevator, the knife being used sparingly, the head was finally freed and removed. The glenoid cavity was then searched for, and found filled with fibrous tissue. There existed a large cavity where the head had rested, which was drained by means of a tube, the other extremity of which was brought out at the lower end of the wound. The wound was closed by sutures and dressed in the usual manner. The course of repair was uneventful, the first dressing taking place on September 8th, when the wound was found closed, except at the point of drainage. The tube was removed and another dressing applied. On September 23d, the wound being entirely closed, the patient was sent home with the arm in a plaster dressing.

On October 20th, on return of the patient and removal of the dressing, it was found that there was only a limited amount of voluntary motion, passive motion being limited and accompanied by a great deal of pain. The deltoid paralysis still persisted, and the patient complained of much less pain than before operation. Passive motion and the galvanic and faradaic currents were ordered three times a week.

On January 30th (passive motion and galvanism having been continued) the patient showed the following condition:

Abduction possible to ten inches from the trunk, rotation slight, forward and backward movements quite marked, entire absence of pain, and ability to raise the hand to the forehead and pass it behind the back. She can now use her hand in dressing herself and in eating and drinking, which she was entirely unable to do before the operation, and can perform her ordinary household work, such as sweeping, carrying water, etc., without the least inconvenience, and feels quite delighted with the result.

In looking up the literature on this subject I have been surprised that so few cases should have been reported. The statistics given by the best authorities show that over half of all dislocations are of the shoulder, and that the proportion of dislocations to fractures is as one to ten, so that to those of us who have a dispensary and hospital practice shoulder dislocations are considered common.

Again, dislocation of the shoulder often causes no more pain than a contusion, and numerous cases are reported where the patient, as in my own case, sought no surgical relief at the time of the injury, but after a few days continued at ordinary work.

These two facts—the frequency of this dislocation, and the slight pain it may cause until after a time—should lead one to think that old dislocations were frequent, and so they are comparatively, but the published histories of cases, and especially those that have been subjected to operation, are very few.

The following cases of excision of the head of the humerus for relief of old dislocations are all that I have been able to gather. The first sixteen of these have been taken from one source, an article by O. Knapp in the *Beiträge für klin. Chirurgie*, 1888–'89, vol. iv, p. 372. In most instances I have verified his accounts of the cases by referring to the original authors.

Case II (von Langenbeck,* 1857).—A strong man, aged forty-one, received a fracture of the humerus; after union of the bone had taken place it was found that the patient had in the same accident received a dislocation of the shoulder, and an unavailing attempt at reduction was made.

One year later another attempt was made at reduction. This failing, excision of the head of the humerus was performed. In the course of the operation it was found that the greater tuberosity had been fractured, but was then healed. In the course of repair erysipelas developed and was followed by profuse discharge of pus. Three months later cicatrization was complete. Four years later Lücke was able to push the humerus under the coracoid process. Elevation of the arm was possible to nearly a right angle, and movements of the forearm and hand were free and strong.

Case III (von Langenbeck,† 1860).—The patient was a man aged forty-six years, with an axillary dislocation three months old. Examination also revealed the presence of a small piece of bone separate from the humerus under the coracoid process. All attempts at reduction failing, the head of the humerus was removed with great difficulty, owing to strong adhesions. Pyæmia set in and the patient died eleven days after the operation.

Case IV (von Langenbeck,‡ 1875).—A typesetter aged forty-five years; axillary dislocation five months old. Symptoms of pressure on the brachial plexus; motion in all directions very limited. All attempts at reduction failing, resection of the head was performed, during which the greater tuberosity was found broken off. Wound closed by primary union six weeks after the operation; although the muscles reacted well to electricity, the usefulness of the arm was found but slightly improved.

Case V (von Langenbeck,# 1875).—A workman aged forty years. Subcoracoid dislocation five weeks old. An unsuccessful attempt at reduction by various methods was followed by marked local reaction.

Five weeks later, resection was performed through an axillary incision with great difficulty. The greater tuberosity was found broken off, which was the probable cause of inability to reduce. The patient died three weeks later of pyæmia.

Case VI (Thiersch,‖ 1874).—A woman forty-eight years old, with a dislocation forward and inward six weeks old. Attempts at reduction resulted in fracturing the humerus about the middle of the shaft.

---

* *Charité Annalen*, 1858, p. 108.

† *Archiv für Chir.*, vol. iii, 1862.

‡ *Ibid.*, vol. xxi.

# *Ibid.*, vol. xxi.

‖ Rosenmeyer.

Incision was made and head of bone laid bare with an idea of freeing the head and replacing it, but the short and strong adhesions which had formed and which could not be broken off prevented this without great danger to nerves and vessels, which were found stretched over the head of the bone. This failing, resection was performed, followed by a tedious and delayed closing of the wound. The fracture of the shaft united in the third week. On discharge of the patient, there was undoubted increased usefulness of the arm.

Case VII (Israel,* 1876).—Patient sixty years old, with a subcoracoid dislocation accompanied by complete anæsthesia and paralysis of parts supplied by the ulnar nerve, "the whole arm feeling like a dead weight." Attempts at reduction failing, resection was performed. A secondary hæmorrhage occurred, causing death of patient.

Case VIII (Ried,† 1878).—Patient was a mountaineer, thirty-four years old, with a subcoracoid dislocation of left shoulder a year and a half old. Many earlier unsuccessful attempts at reduction failed and the arm remained useless; motion in shoulder joint very limited, forward motion being slight, outward motion almost nothing, backward motion somewhat more; passive motion forward was possible to fifty-four degrees; abduction to 10 ctm. from the body. Passive motion also produced crepitation. The left arm had a bluish color, and was 3 ctm. longer and felt cooler than the right. No loss of sensation.

Resection.—An incision 10 ctm. long was made over the head of the bone, and the bone divided at the surgical neck with a chain-saw and head removed. Wound closed by suture and the arm and forearm bound to the body. Repair very rapid, on tenth day wound being entirely closed. Several days later the patient was ordered gymnastic exercises; four months and a half after the operation, was discharged cured, with passive motion in all directions free and easy. The patient was able to move his arm forward and backward easily, the atrophied muscles having almost regained their normal condition. The patient could abduct the arm but slightly, but by passive motion it could be raised to the horizontal, rotation being well marked.

Case IX (Ried,‡ 1877).—Innkeeper, aged fifty-three years, with a post-glenoid dislocation of the right shoulder three months old. The arm fixed in a position forward and outward; abduction impossible and a minimum of motion forward and backward; elongation of the arm 2 ctm. Attempts at reduction under anæsthesia unavailing; resection by an incision in the direction of the axis of the humerus beginning at the spine of the scapula at the back of the shoulder 8 ctm. long and carried parallel with the posterior border of the deltoid muscle. The muscles attached to the tuberosities, together with the periosteum, were separated from the bone, and the head freed and sawn through at the surgical neck. Information of the course of repair is wanting. At the discharge of patient, three months later, motion of the arm was seemingly free forward and backward, while active abduction was limited and passive abduction possible to the horizontal, the arm being quite useful by means of systematic exercise.

Case X (Ried,# 1872).—The patient was a farm laborer, aged twenty years, with an axillary dislocation of the right side two months old, the arm being fixed in a position somewhat removed from the body. Abduction impossible; forward and backward motion very limited, so that the arm was wholly useless. There was a loss of all power to use the hand and a feeling of numbness in the fingers. Earlier efforts at reduction resulted negatively. On the 16th of May resection was performed without Lister precautions. An incision was made down to the head, about a thumb's width to the outer side of the coracoid process. The head was isolated and the surgical neck was sawn through by means of a chain-saw. An examination of the resected portion revealed the greater tuberosity broken off and driven into the spongy portion of the head. Wound dressed by cold compresses; course of repair complicated by suppuration; cicatrization complete in four weeks. On discharge of patient, eight weeks after operation, there was a return of motion and sensation, together with power. Motion at the wrist joint somewhat limited while the elbow was freely movable. Two months later the patient returned. Motion of the arm quite free, it being possible to raise the same to a right angle; the muscles almost normal; shortening of the arm 3 ctm.; full return of strength to the hand and fingers; complete return of sensation.

Case XI (Ried,* 1880).—Patient, a brewer, aged fifty-three years, with a subclavicular dislocation of both shoulders eight weeks old, and complete disuse of both extremities. (The patient was not in a condition to eat or drink, to lie down or get up without help.) Attempts at reduction with extension apparatus failed. Resection was first performed on the right shoulder with great difficulty, the bone removed 3 ctm. below the surgical neck. Closure of the wound was very slow and accompanied by suppuration. Eight weeks after, the wound was closed with the exception of two small suppurating spots.

Two months and a half after the first resection another was performed on the left shoulder. Nine weeks after, cicatrization was complete, excepting a fistula in the right shoulder, which discharged from time to time small sequestra. This was scraped. Gymnastic exercise ordered. At discharge of the patient, seven months after the first operation, he was able to raise both hands to the forehead and to eat without help. Rotation moderate; abduction limited. Six years and a half later it was known that the patient worked in a brewery as a maltster, with full use of his arms. He was able to raise a sack weighing a hundred pounds a metre and a half from the floor and throw it on a truck, to dress himself, perform his toilet, and to eat without help. Motion in all directions free and stronger in the left arm than in the right. The muscles of the left shoulder, although weaker than normal, were not so atrophied as those in the right. The upper ends of the resected humeri were rounded off and to be felt in the glenoid cavity.

Case XII (Hardenheuer †).—Hardenheuer relates a case of successful resection of old dislocation of the shoulder, the patient being able to raise his arm to the horizontal.

Case XIII (Billroth ‡).—In a case of complete paralysis of the arm following a dislocation of the humerus, a typical resection was followed by a marked improvement in function, although there was not complete disappearance of paralysis.

Case XIV (Adams#).—Dislocation backward two years old. Atrophy of the muscles of the shoulder; inability to use the arm; resected close below the surgical neck. One year after, the patient was able to do light work as a railroad porter.

Case XV (Howard Marsh).—An old dislocation, with atrophy of the muscles and long-continued pain. Attempted reduction failed and a resection was performed by Savory.

---

* *Beiträge für klin. Chir.*, 1888–'89, vol. iv, p. 388.

† Heyge, *Inaug. Dissert.*, Jena, 1881.

‡ Heyge, *loc. cit.*

Knapp, *Beiträge für klin. Chir.*, 1888–'89.

* Eichhorn, *Dissert.*, Jena, 1887.

† *Deutsche Chir.*, lxiii, p. 393.

‡ Von d. Thusen. *Ueber veraltete Luxationen. Inaug. Dissert.*, Bonn, 1887.

Royal Med. and Surg. Soc., March, 1888.

The neuralgia disappeared. Result as to usefulness of arm unknown.

Case XVI (Patterson*).—The patient, was a strongly built man of fifty-nine years with subglenoid dislocation eleven weeks old. Forearm and hand swollen, cold, and partly paralyzed. Reduction impossible; resection performed. No pathological changes were found in the glenoid cavity. Result as to usefulness of arm unknown.

Case XVII (Book†).—The patient, a woman aged twenty-six years, with an incomplete dislocation of the shoulder five months old, having from the first disuse of the arm and great pain. Resection of the unchanged head of the bone, which was found resting on the anterior rim of the glenoid cavity. Marked improvement.

Case XVIII (Edward Warren,‡ 1860).—Patient, a female aged fifty years, with dislocation of the shoulder twelve months old, head being thrown down into the axilla beneath the coracoid process in contact with the brachial plexus of nerves, occasioning violent and persistent pain, with great debility and gradual emaciation. A V-shaped incision exposed the joint and the head of the bone found firmly wedged in its new position; it was divided through the surgical neck. The patient rapidly recovered with a good use of her arm.

Case XIX (Lister,# 1873).—In January, 1873, a man, aged fifty-eight, presented himself at the Royal Infirmary with symptoms of subcoracoid dislocation, the result of a fall eight weeks previous. An attempt was made at reduction by manipulation and pulleys, no very great force being used. This was unsuccessful, and the efforts at reduction were no sooner discontinued than a large swelling was noticed below and behind the axilla; no pulse at the wrist. At once cut down into the axilla and turned out a mass of clots. Found nothing wrong with the artery in its lower part except absence of pulsation; then divided both pectoral muscles to the clavicle, and here discovered a rent in the artery a sixth of an inch long. Artery tied above and below the rent. Head then resected and humerus placed in normal position. Patient rallied somewhat, but died three hours after operation.

Post mortem examination revealed that the artery had become attached by an osteofibrous band to the coracoid process on the one hand, and to the neck of the humerus on the other, and this had been torn across during manipulation at the point of its attachment to the artery. The artery was also found atheromatous.

Case XX (Lister ‖).—The patient, aged twenty-three, was admitted to the hospital July 26, 1887. Seven months before admission he received a subcoracoid dislocation of both shoulders while in an epileptic fit. He had absolutely no use of his arms. This condition was accompanied by extreme atrophy of the shoulder muscles. On July 29th an incision was made in the left shoulder, the soft parts completely detached from the upper end of the humerus, and, with the aid of pulleys, the head of the bone was returned to its normal position. Wound healed in six weeks, and in course of time, under the influence of passive motion, massage, and galvanism, he improved so much that he could dress himself and perform the other acts of the toilet, being no longer dependent on others. On January 27, 1888, operated on the right shoulder, removing the head of the humerus without interfering with the tuberosities, the bone being then readily replaced. Wound promptly closed and recovery of motion was more rapid than it had been on the other side. A letter from the patient's brother to Lister, dated December 22, 1889(?), states that he is in America doing very hard manual labor on a farm and enjoying good health.

Case XXI (Ollier,* 1885).—J. R., aged twenty-seven, a harness-maker, received a fall from a horse and entered the hospital five months and a half later, when a diagnosis of intracoracoid dislocation of the left shoulder was made.

The patient (admitted June 24, 1885) complained of pain in the shoulder at the least movement or on pressure.

Owing to the arthritis present, no immediate attempt was made at reduction by manipulation until after the arthritis was relieved by a series of baths. The attempt, however, when tried, failed.

Operation.—A longitudinal incision was made along the anterior border of the deltoid and the head found under the coracoid process. An attempt was made, by cutting adhesive bands, to reduce the dislocation; this failing, the head was cleared subperiosteally, and 43 mm. of the head and shaft were removed. The glenoid cavity was found filled with fibrous tissue and let alone. Process of repair was uninterrupted. On the fifteenth day passive motion was begun.

In August rheumatism set in as a complication. In October passive motion recommenced and galvanism was given daily.

Ten months after the operation rotation was free within the joint, but limited without. Patient could raise the hand to the top of the head and carry it behind the back to the perinæum, and could cross the arms in front of the chest.

Case XXII (Thomas,† 1880).—On March 29, 1880, the patient, D., aged forty-eight, gardener, was thrown from his cart. On arising he could not bring his arm to his side. Received no regular treatment for twenty-three days. He then called a surgeon, who immediately recognized a dislocation of the shoulder, and made an unavailing attempt to reduce it.

Twenty-five days after the injury the patient was presented to Thomas, who made a diagnosis of subglenoid dislocation, and an attempt was made to reduce same under anæsthesia, which proved unsuccessful. He decided to remove the head of the bone, which was done May 12th, forty-four days after the accident. The operation was long and tedious, and followed by suppuration. Two months after the operation the wound closed. On August 25th, three months after the operation, the patient had use of his hand and forearm, passive motion being possible without pain; the arm could be raised to a right angle, carried forward and backward, and some rotation was possible. Nine months after the operation, the patient having failed to use his arm according to directions, there was ankylosis of the shoulder and stiffness at the elbow, with incomplete extension of the forearm. There was an excessive growth of bone taking the place of the head. Taking into consideration his former state, the patient, however, was satisfied.

Case XXIII (Sheild,‡ 1887).—A healthy man, aged forty-eight, was admitted to the hospital September 3, 1887, with a subcoracoid dislocation of the left shoulder. There was marked ulnar nerve paralysis, both motor and sensory. The median nerve was also implicated, but not so much as the ulnar; radial pulse much diminished.

There was complete loss of power of the hand. Twelve weeks after the injury an attempt was made at reduction, which failed. Excision was then performed through an anterior incision.

---

* *Ctrlbl. für Chir.*, 1879, p. 328.

† *Jahresbericht von Virchow u. Hirsch*, 1883, Bd. 11.

‡ *Gross's Surgery*, sixth edition, vol. i, p. 1160.

# *Edin. Med. Jour.*, March, 1873, and *British Med. Jour.*, January 4, 1890.

‖ *Ibid.*

* Ollier, *Revue de chir.*, 1886, p. 904.

† Thomas, *Revue de chir.*, 1885, v, p. 715.

‡ Royal Med. and Chir. Soc., March, 1888.

The head was found at a great depth surrounded by fibrous adhesions. It was finally cleared and drawn out, and divided from the shaft at the anatomical neck. The patient made good and uninterrupted recovery.

The radial pulse resumed its ordinary strength immediately after operation. Three days after the operation the sensory paralysis of the median and ulnar nerves had almost disappeared. Twenty-three days after the operation patient left the hospital with wound entirely healed, with motor paralysis improved, and with a return of all sensations except to the back of the little finger.

Under galvanism and massage, an examination of the patient twelve weeks after the operation showed that the atrophied muscles had in part been restored, that the movements in the shoulder were satisfactory, and that he could use his hand and arm freely in the exercise of his vocation.

CASE XXIV (Annandale *).—The patient was a woman, aged sixty-two, with a subclavicular dislocation six weeks old, accompanied by much pain. An incision was made along the anterior border of the deltoid, the operator hoping to free the head and replace it in its socket. Finding this impossible, he divided the bone at the surgical neck and removed the head piecemeal. It was firmly adherent to the ribs. During the operation the posterior circumflex artery was wounded and tied, but, the ligature cutting through (owing to endarteritis) and the stump of the vessel being only an eighth of an inch long, the axillary artery was tied above and below. Gangrene of the limb followed, and the patient died three days after the operation.

CASE XXV (Volkmann,† 1883).—A strong man, fifty-five years old, was admitted to clinic suffering from a right subcoracoid dislocation five weeks old. Attempts at reduction under anæsthesia negative. The head of the bone was locked under the coracoid process. Resection decided upon. An incision was made over the head, which projected prominently under the skin, when there flowed from the wound a quantity of dark-brown liquid, which proved to be venous blood, which, after the removal of the head by means of a chain-saw, was found to proceed from a wound in the axillary vein, seemingly having been produced by a spicule of bone. Wound healed by primary intention, and, five weeks after, the shoulder seemed in good position, and good passive motion was possible.

CASE XXVI (Volkmann,‡ 1883).—An innkeeper, aged thirty years, suffering from epilepsy, had, six weeks before, during an epileptic attack, dislocated the left shoulder. Three years after, from a slight traumatism, again dislocated it. After this time the dislocations occurred quite frequently. In all, ten resulted. As bandaging had no effect in preventing the dislocations, and the patient being very anxious for an operation, it was performed. (A portion of tuberosity was missing and supposed to have been absorbed.) The course of repair was interfered with by suture abscesses and a slight necrosis of the resected end of the humerus. Patient discharged at the end of six weeks with good position of the arm, being better pleased with the usefulness of the arm than before operation.

CASE XXVII (Charles Phelps,# 1890).—On January 13th the patient, a sailor, while boarding a vessel in Hamburg, fell from the gang-plank into the water. At the time he was carrying his bag of clothes, which he dropped, and in his descent to the water struck it with his left shoulder. On his arrival here he came to the hospital, and a diagnosis of subcoracoid dislocation was made. Various attempts at reduction under ether failed. A few days later the head of the humerus was excised. Suppuration followed, lasting a few weeks, and a sinus persisted until July 5th, the date of the last record. Result unknown.

The foregoing is a synopsis of all the cases I have been able to gather, and, notwithstanding the mortality is 18·5 per cent., I think the results following operation are very gratifying. In two cases the results are unknown, one showed no improvement, one slight, two moderate, while fourteen showed marked improvement; in fact, the patients showing marked improvement may be considered cured, as their arms were almost as useful as before the injury. Of the five deaths, two were due to pyæmia, probably caused by lack of antiseptic precautions; one was the result of secondary hæmorrhage; the fourth was due to hæmorrhage and exhaustion; the fifth to gangrene following ligature of the axillary artery. Three of the deaths would be very unlikely to occur at the present day in the hands of competent surgeons, while two were the result of accident during the operation, which might happen to any of us, so that, in the light of our present knowledge, the percentage of mortality is very much reduced—say, to about 7 per cent.—and, in the face of the good results obtained and great relief to the patients, this operation is rendered not only allowable, but, in my opinion, justifiable.

A CASE OF DERMATITIS MEDICAMENTOSA.

By HUGH HAGAN, M. D.,

ATLANTA, GA.

W. L. G., aged four years and four months, of good constitution and healthy parentage, enjoyed perfect immunity from the affections of infancy, save one attack of cholera infantum when eighteen months of age, to October, 1889. During the early part of that month the nurse noticed, when she had the baby in his bath, that his body was scarlet, and, becoming alarmed, called the mother, who in turn summoned the family physician. He, according to the history, treated the child for some acute eruptive disease, which disappeared in three or four days. From that time until three months ago the child has never been free from some form of an eruption. One attack of erythema multiforme papulosum would be followed by an urticaria, pruritus being marked at all times, and also a dry, scaly condition of the skin. This cycle continued without interruption for a year, when the family physician gave the case up. The father called in a second doctor, who in turn tried innumerable remedies, but in vain, when the father, as a last resort, took the boy to New York, and there consulted a famous dermatologist, who, on seeing the condition of the boy, remarked that it was "a case of too much salve," and ordered the patient bathed and brought back. This was done. When the boy was returned the diagnosis of a dermatitis of reflex origin was made.

The remedies given were directed to the alimentary tract and a tonic of syrup of iodide of iron was given. After returning to Atlanta, the boy was as bad as ever. I was called in. The condition of the boy was lamentable. The skin over the abdomen and thighs was as red as a boiled lobster, very much thickened, hard, and dry. A marked desquamation was present. The child could not sleep for the burning and itching. The loss of sleep and fretfulness had made him look haggard. His appe-

---

[*] *Medical Times and Gazette*, 1875, vol. i.

[†] Popke, *Centralblatt f. Chir.*, 1883, p. 28.

[‡] *Ibid.*

[#] Bellevue Hospital Records, Fourth Surgical Division.

tite was capricious and his stools were tardy. His general health was as good as could have been expected. After hearing the history as given above, I ordered a saline laxative and a mixture of oil of cade, salicylic acid, alcohol, and water. In a week the erythema disappeared, leaving the skin very dry and desquamating. In a few days I was called in again, and this time I found the boy with severe urticaria. The smarting and itching were very severe. The mixture was again applied, and the old formula of ipecac, rhubarb, soda, nux vomica, and cascara was given with marked benefit. I began to look into the matter of the boy's diet, but found everything pertaining thereto perfect; so, in attempting to find the source of irritation, efforts were made to free him of intestinal worms. Oil of chenopodium was given, but without result; enemata of lime-water and infusion of quassia, tried for thread worms, also were without avail. The condition of the child being no better, I at last questioned the mother very closely as to medicines used at home, thinking it very probable the child might be a martyr to domestic medication. Her reply to my question was, "that she never gave them anything but quinine, and this *only* when they were threatened with colds," for she thought "an ounce of prevention worth a pound of cure." I then questioned her further as to the frequency of the administrations of the drug. To this she replied, "she used an ounce of quinine about every month, but could not tell how often she gave it to this boy." I expressed my opinion that the child possessed an idiosyncrasy for this particular drug, and forbade its further use in his case. In a month, with the use of the oil-of-cade lotion, the skin was perfectly healthy and his general condition much improved. To make sure that quinine was the cause of the dermatitis, one month from the day I forbade its further use I gave him one grain of the sulphate. In six hours a general erythema covered his body. This disappeared in three days, and since, now two months, no evidence of the former inflammation which caused eighteen months of suffering to the patient and chagrin to the doctors has been found.

ARIZONA:

A WINTER CLIMATE FOR CONSUMPTIVES.

By GEORGE S. LIGGETT, M. D.,

OSWEGO, KANSAS.

It has been my fortune to spend the past winter in Arizona, in the foot-hills of the Catilina Mountains. While there I took daily observations of the temperature, and it may be of interest to the physicians in the Eastern States to know something of the conditions there, in order that they may intelligently recommend a climate of that sort to their patients. More especially is the information valuable at the present time on account of the lymphization of tuberculous patients, the after-treatment being a rebuilding of the system.

We were forty miles from Tucson, on a stage route, and among the live-oaks. Thousands of song birds winter there. We had three rain-storms, but it was only when rain was falling that we could not be out of doors.

At the ranch where we were we had the tenderest of beef and the sweetest of mutton that it has been my lot to eat. We had fresh vegetables all winter, and we had appetites to enjoy everything laid before us. We led an outdoor life, walking, riding, hunting, and, while there were some days when the wind blew sharply, it was not unpleasant if one was properly clad or out of the wind in the sunshine. The hunting is fine—there are quail by the hundred, deer, antelope, coyotes, wild hogs, wild cats, and, in the mountains, bear and mountain lion. The roads are excellent, the nature of the soil making no mud, and a rain only made them better. There was no mold or dampness, and a wet towel could be thrown into the clothes-bag without that result careful housewives dread.

The scenery is varied—*mesa*, foot-hill, mountain, and cañon. Growing there in profusion are many varieties of cacti, from the giant twenty feet high to some of the smallest, and several varieties of the yucca; and cypress, green-wood, and live-oak abound, and on the mountain tops large pines. The Mammoth mining camp on the San Pedro River was two thousand feet lower than our place, and the drive there is through beautiful cañons; right back of the house began the mountain trails, climbing dizzy heights over precipitous paths. The following is the daily reading from a Hicks self-registering thermometer. The coldest period was some time during the night:

Oct. 28th,		73°	Nov. 27th,	46°	58°	Dec. 27th,	44°	59°
" 29th,	49°	72°	" 28th,	43°	60°	" 28th,	46°	57°
" 30th,	46°	74°	" 29th,	35°	58°	" 29th,	51°	55°
" 31st,	52°	74°	" 30th,	40°	57°	" 30th,	44°	53°
Nov. 1st,	50°	73°	Dec. 1st,	40°	59°	" 31st,	30°	38°
" 2d,	46°	72°	" 2d,	43°	56°	Jan. 1st,	26°	43°
" 3d,	46°	69°	" 3d,	38°	58°	" 2d,	27°	46°
" 4th,	47°	70°	" 4th,	43°	52°	" 3d,	27°	46°
" 5th,	48°	69°	" 5th,	38°	43°	" 4th,	32°	52°
" 6th,	42°	66°	" 6th,	30°	46°	" 5th,	36°	52°
" 7th,	45°	56°	" 7th,	29°	44°	" 6th,	29°	47°
" 8th,	32°	54°	" 8th,	35°	42°	" 7th,	30°	42°
" 9th,	29°	46°	" 9th,	36°	48°	" 8th,	23°	35°
" 10th,	32°	52°	" 10th,	40°	53°	" 9th,	17°	34°
" 11th,	34°	55°	" 11th,	43°	51°	" 10th,	19°	35°
" 12th,	36°	45°	" 12th,	43°	51°	" 11th,	17°	36°
" 13th,	28°	46°	" 13th,	42°	50°	" 12th,	23°	34°
" 14th,	29°	50°	" 14th,	34°	54°	" 13th,	26°	42°
" 15th,	28°	46°	" 15th,	35°	52°	" 14th,	24°	45°
" 16th,	32°	45°	" 16th,	46°	53°	" 15th,	25°	43°
" 17th,	33°	54°	" 17th,	40°	57°	" 16th,	26°	48°
" 18th,	33°	55°	" 18th,	43°	58°	" 17th,	37°	49°
" 19th,	45°	58°	" 19th,	45°	59°	" 18th,	28°	46°
" 20th,	45°	53°	" 20th,	41°	54°	" 19th,	30°	47°
" 21st,	41°	58°	" 21st,	38°	55°	" 20th,	34°	49°
" 22d,	46°	57°	" 22d,	44°	54°	" 21st,	29°	50°
" 23d,	42°	55°	" 23d,	42°	56°	" 22d,	31°	53°
" 24th,	43°	59°	" 24th,	35°	55°	" 23d,	28°	49°
" 25th,	42°	60°	" 25th,	37°	58°	" 24th,	31°	
" 26th,	45°	56°	" 26th,	40°	60°			

The cold spell in January was not severe, and, if I had not had a tested thermometer, I should not have believed it was so cold. The hardest rains came at night, and we had one little flurry of snow. At times the wind from the snow-clad mountains was quite cool. For an outdoor winter climate I do not think that region can be beaten, and I am also informed that in the foot-hills the thermometer only reaches 100° during the summer, though lower down it will be 110° to 115°. Higher up in the mountains there are magnificent places for summer resorts, and the time should not be far distant when our physicians will send their patients westward rather than "across the pond" for a change of climate and scenery.

The Philadelphia Polyclinic.—It is announced that Mrs. Harry Ingersoll, of Philadelphia, has given the sum of $5,000 to endow a room in the hospital for the accommodation of such of the nurses as may be taken sick during their service. Such an endowment is said to be the first of its kind in the country.

THE
NEW YORK MEDICAL JOURNAL,
A Weekly Review of Medicine.

Published by
D. Appleton & Co

Edited by
Frank P. Foster, M. D.

NEW YORK, SATURDAY, MARCH 28, 1891.

HYSTERICAL AEROPHAGIA.

Under this new name Bouveret describes in the *Revue de médecine* for February 10th clonic spasms of the pharynx which affect convulsively the movements of swallowing, occur in paroxysms, and are capable of introducing into the stomach enough air to produce a true tympanites. The case that forms the basis of the paper was that of a confirmed hysteric. From time to time she emitted gas from the stomach, alternating the movement with convulsive spasms of air-swallowing, so that an attack was made up of a succession of swallowings and eructations. The starting point of the spasm seemed to exist in the great hyperæsthesia of the mucous membrane of the pharynx. At short intervals the muscles of the pharynx threw themselves into short, rapidly executed contractions. Each attack of spasm lasted two or three minutes, and there were from forty to sixty contractions to the minute. Each movement of swallowing was accompanied by a noise similar to that ordinarily produced in swallowing a mouthful of water. During the continuance of the spasmodic action no air was expelled by the nose. From time to time the muscular action was interrupted by a sonorous eructation of wind from the stomach. The gas was emitted through the mouth and the nares, and it was quite free from odor. In one minute M. Bouveret counted forty acts of swallowing and five eructations. During the continuance of the spasm when the bell of the stethoscope was placed over the left hypochondrium a series of metallic sounds of an amphoric quality became audible, which were most probably due to the bursting of bubbles of gas in the dilated stomach. Over the œsophagus a *bruit de glou-glou* was audible. The epigastrium was distended. The tympanitic percussion sound of the stomach was much extended, and this condition seemed to be present in the intestine, although as a matter of fact no air was expelled by the anus. The mucous membrane of the pharynx was the seat of hyperæsthesia of a very marked degree. The slightest touch of the pillars of the fauces or of the posterior wall of the pharynx produced instant spasm. Another hyperæsthetic area was found in the front part of the larynx, and in this region, and particularly at the upper part of the thyreoid cartilage, the slightest touch threw all the pharyngeal muscles into a state of contraction. If the excitation of this region was prolonged further it gave rise to a sensation of general malaise with nausea, weakness, throbbing in the temples, and oppression. This hyperæsthetic area is therefore said by the author to be both *spasmogène* and *hystérogène*.

The patient herself experienced many unpleasant sensations, such as tickling in the throat, sometimes also a feeling as if a foreign body were in the throat, pains in both ears, and a sensation of tension at the epigastrium removable by free eructation. The voluntary act of swallowing was performed with comfort. All spasmodic action seemed to cease when the muscles were put into action by the will. No vomitings or regurgitations of food had been at any time observed. It is highly probable that laryngeal spasm often accompanies that of the pharynx. The treatment, apart from that of a general tonic intention, should be directed mainly to the diminution of the oversensibility of the mucous membrane of the pharynx.

THE ANNUAL REPORT OF THE SURGEON-GENERAL OF THE MARINE-HOSPITAL SERVICE.

The annual report of this service for the fiscal year ending June 30, 1890, has recently been published, and we learn from it that 50,671 patients were furnished relief. Of these, 14,587 were treated 401,880 days, an average of 27·5 days' hospital residence for each patient, and 36,084 patients were treated in dispensaries; from this we see that 28·7 per cent. of the cases are treated in hospitals and 71·2 per cent. in dispensaries. Excluding the expenditures for the repair and preservation of marine hospitals, fuel, lights, water, furniture, repairs of furniture, etc., that are paid for out of special appropriations, the cost of maintaining the service was $566,848.31, or something over $11.18 for each patient treated. The careful administration of the disbursements is shown by the fact that an unexpended balance of $112,274.62 remained at the close of the fiscal year. Besides these patients, 2,976 seamen were examined physically.

The statistical tables show that the greatest number of patients was treated in the district of the Great Lakes, the South Atlantic district being second; but the average duration of hospital treatment was greatest in the Pacific district, and next in that of the Great Lakes. From this it seems that in the latter, where commerce is not subject to the climatic risk that vessels going to tropical or subtropical latitudes are exposed to, there are factors of poor hygiene in vessels or a greater liability to disease in the crew.

We note with some surprise the circular that has been issued on leprosy, in which it is stated that there is an increased prevalence of that disease in several foreign countries. We have referred in the past year to a similar statement emanating from the local board of health, and then called attention to the fact that this statement was unsupported by any statistical evidence, and that the national conference of State boards of health had refused to support the alarmist views of the Pennsylvania Board of Health that had been mainly instrumental in securing the adoption of the resolution regarding leprosy passed by the American Public Health Association. Why not issue a circular forbidding the entry of any vessel having a person afflicted with tuberculosis on board? This disease is more contagious than leprosy, and in this country alone is the cause of more deaths than leprosy causes in the entire world.

The national quarantines are being placed in working order, and we note that the disinfecting steamers are named after bacteriologists—Robert Koch, Pasteur, and Welch.

There are a number of reports of cases by different officers, and during the year eight hundred and thirty-seven operations were performed. The names of the operators are not now given, as was the case in earlier volumes of these reports, a defect that is also noted in the reports of fatal cases with necropsies. The latter reports are very variable. Some are excellent and others show a most perfunctory post-mortem examination. The adoption of a special form will undoubtedly make these reports more uniform and of greater value.

The field of usefulness of this service keeps on increasing, and the report speaks well for the efficiency of the medical corps.

MINOR PARAGRAPHS.

MEDICAL LEGISLATION IN NEW YORK.

Of late there has been considerable legislation regulating the licensing of physicians in this State—so much, indeed, that in many instances it has been a matter of difficulty for candidates for the license to find out just what requirements they would have to comply with. The law enacted by the last Legislature will, unless superseded or repealed in the present session, go into effect next September. Elsewhere in this issue we publish the full text of a bill that seems to us a better one, especially as it would have the effect of doing away with sectarian squabbles about nominations and examinations, and establish a "single portal" of admission into the profession. This bill is, as we learn from advance sheets of the April number of the *Buffalo Medical and Surgical Journal*, opposed by the Medical Society of the County of Erie and by the medical faculties of the University of Buffalo and of Niagara University. The opposition in Erie County seems to be based wholly, in so far as it is reasonable, upon the fact that the bill, if it becomes a law, will postpone the operation of the law requiring a State license. This is to be regretted, of course, but it is better to wait a year longer for a really good law than to rest content with an objectionable one that has only the advantage of earlier enforcement.

CONVULSIVE TIC OF THE PSOAS AND ILIACUS MUSCLES.

In the *Semaine médicale*, 1890, No. 47, cited in *Lo sperimentale* for November, 1890, Klemperer reports the case of a neurasthenic young man who for some time had felt very disagreeable pulsations in the left side of the abdomen. They were not synchronous with the pulse, and hence could not be caused by an aneurysm. With a strong effort of the will or by taking a very deep inspiration, the patient could retard the pulsations. They ceased entirely during chloroform narcosis. Klemperer found that the contractions had their point of departure at the vertebral column, and traced them down to a point below Poupart's ligament. He also noticed that each contraction was accompanied by a slight rotation of the thigh outward. Hence it was evident that the case was one of spasmodic contraction, or *tic convulsif* of the psoas and iliacus muscles.

MEDICAL MEN AND THE SECULAR PRESS.

At the last meeting of the Medical Society of the County of New York, on Monday evening, the 23d inst., Dr. F. R. Sturgis read a paper entitled Under what Circumstances and to what Extent may Members of the Medical Profession properly permit their Names and Opinions to be published by the Secular Press? The subject was discussed by several members of the society and by a few laymen who had been invited to be present. From what was said, the opinion generally held by physicians may be strengthened—namely, that the utmost caution should be observed in making or authorizing statements concerning medical matters in the newspapers. This does not seem to be what most of the speakers thought, but, from what one says, an inference quite the reverse of the sentiment expressed may sometimes be drawn quite legitimately. One of the speakers made the sensible suggestion that what a physician thought best to publish about medical matters had better be published in the medical journals. If this rule were followed, physicians who wished to communicate with the public would not find their meaning perverted and themselves made to appear ridiculous, as is now often the case.

A VESICULAR ERUPTION IN SCARLET FEVER.

The *Albany Medical Annals* for February contains an article by Dr. F. C. Curtis, on a case of scarlet fever that was marked by unusually general and distinct vesicles. On the wrists and the backs of the hands there were vesicles of the size of a split pea, some of them being irregular in outline, as if formed by the confluence of two or more individual vesicles. They were flat and superficial, and their contents were turbid as if semi-purulent. At first glance, they seemed not unlike the eruption of small-pox on the fourth day, but they lacked the solid edge and the acumination of the latter. On the chest a few vesicles appeared, and some on the neck and back, but none on the face. A day or two later the eruption appeared on the ulnar side of the forearms and on the knees and ankles. The child suffered no inconvenience from the eruption, and none of the vesicles were ruptured. Between the sixth and tenth days of the fever the vesicles all disappeared and desquamation in large thin flakes took place, especially at the wrists, knees, and ankles. The abnormal eruption appeared neither to flow from nor to lead up to any unusual severity in the case.

LOCAL SWEATING OF REFLEX ORIGIN.

Ducorneau records in the *Journal de médecine et de chirurgie* for October, 1890, the following curious observation: A young woman of good constitution had been confined two months previously. She had noticed for about two weeks that whenever she put her baby to the breast there broke out suddenly a profuse sweating of the thigh and leg of the side corresponding to the breast nursed. The sweating extended posteriorly from the nates to the foot, and lasted through the whole time of the nursing. The same phenomenon was observed when the other breast was given. On changing the baby from one breast to the other, the sweating began and ceased always at the same moment with the flow of milk from the side in question. The mother had been considerably reduced by the sweating. Tonics were given and the breasts were rubbed with belladonna ointment. After a few days of this treatment the sweating diminished and finally ceased entirely. Ducorneau attributes the sweating to reflex action, though the *modus operandi* is difficult to explain.

FLUSHING AS A CAUSE OF CUTANEOUS DISEASE.

Mr. Jonathan Hutchinson has contributed to the *British Journal of Dermatology* for January some observations on flush of the cheek. There is in the middle of the cheek a portion of the skin that is liable to become congested or livid from various causes. This has a connection with the localization of certain skin affections that are known specially to attack that portion of the face. Mr. Hutchinson proposes to designate this region as the "flush-patch." He points out that in some persons eating makes this part become flushed as much as the taking of alcoholics. In one of his cases he describes a condition of flushing that was occasioned by the drinking of two glassfuls of port wine daily with bitter beer at table, resulting in a permanent flush which might fitly have been termed "acne rosacea without acne." He also relates a case in illustration of the relationship of certain forms of rosacea with lupus erythematosus which he considers might have been said to be one of chilblain, acne, eczema, or lupus erythematosus, the truth being, in his opinion, that it was one and all at the same time. This patient had been liable to chilblains from childhood, and the affection of the face began with a proneness to flushing after meals.

CAMPHORIC ACID AND TELLURATE OF SODIUM AS ANTIDROTICS.

La Province médicale speaks very highly of the use of these drugs in the treatment of profuse sweating from whatever cause. Employed in the nocturnal sweating of phthisis, their action is prompt in arresting the secretions of the skin, in lessening very materially the purulent expectoration, and in improving the general well-being of the patient. The amount of camphoric acid to be given daily is set down as about thirty grains, and that of the sodium tellurate as rather less than a grain. The ingestion of the sodium salt imparts an alliaceous odor to the breath. No disagreeable results have been found to follow the use of these remedies. Schultze, in the *Medicinische Revue*, also reports very favorably on the use of camphoric acid in the sweating of phthisis. He advocates the administration of thirty grains every evening at bedtime. According to this author, the antidrotic effect of this drug is far superior to that of atropine, while it produces very much less constitutional disturbance. The effect continues from six to eight hours. Schultze also recommends the combination of fifteen grains of camphoric acid with the usual dose of antipyrine, to counteract the diaphoretic action of the latter drug.

A NEW POISON IN CHEESE.

In the *Bacteriological World*, Dr. V. C. Vaughn announces a new poison found in cheese. A number of samples of the suspected cheese, which, it was alleged, had caused nausea and vomiting, were examined at the hygienic laboratory of Michigan University. Its poisonous character was proved in experiments on animals by its causing death in a few hours, but the nature of the poison could not be determined further than that it was not tyrotoxicon and that it belonged in the list of so-called poisonous albumins.

POPULAR TEACHING IN BACTERIOLOGY.

We are glad to notice in the April number of *Harper's New Monthly Magazine* a very instructive article on micro-organisms and the main features of their laboratory study by Dr. T. Mitchell Prudden, written with that author's usual simplicity and clearness.

AN OINTMENT FOR SEBORRHŒA AND SCALY ECZEMA OF THE SCALP.

From the St. Louis *Courier of Medicine* for December we quote a formula of Dr. W. A. Hardaway's much used at his dermatological clinic: Salicylic acid, 1 scruple; precipitated sulphur, 1 drachm; vaseline, 1 ounce; oil of roses, q. s. Mix thoroughly. This unguent has a wide range of application, as, for example, in the diseases causing dandruff and in tinea versicolor, keratosis senilis, and lupus erythematosus.

ITEMS, ETC.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported during the two weeks ending March 24, 1891:

DISEASES.	Week ending Mar. 17.		Week ending Mar. 24.	
	Cases.	Deaths.	Cases.	Deaths.
Typhoid fever	14	4	7	3
Scarlet fever	173	22	172	19
Cerebro-spinal meningitis	5	4	3	3
Measles	393	18	435	17
Diphtheria	88	29	89	42
Small-pox	0	0	1	0
Varicella	9	0	6	0
Whooping-cough	0	0	3	0

The New York Pasteur Institute.—In his first annual report, dated March 23, 1891, the director, Dr. Paul Gibier, gives the results of the preventive inoculations against hydrophobia performed at the institute during the first year of its existence (from February 18, 1890, to February 18, 1891). Eight hundred and twenty-eight persons who had been bitten by dogs and cats came to be treated. These patients may be divided in two classes: 1. In regard to 643 of these persons it was demonstrated that the animals that had attacked them were not mad. Consequently the patients were sent back after having had their wounds attended to during the proper length of time, when it was necessary. 2. In 185 cases the anti-hydrophobic treatment was applied, hydrophobia of the animals that had inflicted the bites having been shown clinically, or by inoculation in the laboratory, and in many cases by the death of some other persons or animals bitten by the same dogs. No death caused by hydrophobia has been reported among the persons inoculated. Indigents have been treated free of charge. The persons treated were: 81 from New York, 27 from New Jersey, 16 from Massachusetts, 11 from Connecticut, 9 from Illinois, 5 from Georgia, 5 from North Carolina, 5 from Pennsylvania, 3 from Maryland, 3 from Missouri, 2 from New Hampshire, 2 from Texas, 2 from Kentucky, 2 from Ohio, 1 from Maine, 1 from Arizona, 1 from Minnesota, 1 from Iowa, 1 from South Carolina, 1 from Nebraska, 1 from Rhode Island, 1 from Arkansas, 1 from Virginia, 1 from Louisiana, 1 from the Indian Territory, and 1 from Ontario, Canada.

The University of Cincinnati.—Dr. C. G. Comegys has been elected president of the board of trustees of this proposed university, which will include departments of medicine, dentistry, and pharmacy. Under the will of the late Matthew Thoms, the library of the testator and $150,000 in money will become the property of the university library.

The Missouri Medical College.—The alumni association will celebrate the semi-centennial of the college, on Tuesday evening, the 31st inst., at the Lindell Hotel, St. Louis.

Charity Hospital.—Eleven young men recently passed the examination for appointment on the house staff, ten of whom were graduates or pupils of the College of Physicians and Surgeons.

The Medical Department of the University of the City of New York held its annual commencement on Tuesday evening, the 24th inst.

Army Intelligence.—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from March 8 to March 21, 1891:*

Raymond, Henry I., Captain and Assistant Surgeon, is, by direction of the Acting Secretary of War, relieved from duty at Newport Barracks, Kentucky, and assigned to duty at Fort Thomas, Kentucky, reporting in person to the commanding officer, Fort Thomas, and by letter to the commanding general, Division of the Atlantic. Par. 18, S. O. 54, A. G. O., Washington, D. C., March 10, 1891.

Finley, James A., Captain and Assistant Surgeon, having been found by an Army Retiring Board incapacitated for active service on account of disability which is not the result of any incident of service, is, by direction of the President, wholly retired from the service this date, under the provisions of Sections 1,252 and 1,275, Revised Statutes, and his name will be henceforward omitted from the Army Register. Par. 2, S. O. 54, A. G. O., Washington, D. C., March 10, 1891.

By direction of the Secretary of War, a Board of Medical Officers—to consist of Vollum, Edward P., Colonel and Chief Medical Purveyor; Bache, Dallas, Lieutenant-Colonel and Surgeon; Girard, Alfred C., Major and Surgeon; and Gandy, Charles M., Captain and Assistant Surgeon—is constituted to meet in New York city, on March 16, 1891, or as soon thereafter as practicable, for the examination of candidates for admission into the Medical Corps of the Army, and such other business as the Surgeon-General may desire to bring before it. Par. 18, S. O. 52, A. G. O., Washington, D. C., March 7, 1891.

Shannon, William C., Captain and Assistant Surgeon, now on duty at Fort Apache, Arizona, will, by direction of the Acting Secretary of War, repair to this city and report in person to the Adjutant-General of the Army for further orders. Par. 5, S. O. 55, A. G. O., Washington, D. C., March 11, 1891.

Retirements.

Fryer, Blencowe E., Lieutenant-Colonel and Assistant Medical Purveyor. February 24, 1891.

Promotions.

Greenleaf, Charles R., Major, to be Lieutenant-Colonel and Assistant Medical Purveyor. February 24, 1891.

Winne, Charles K, Captain and Assistant Surgeon, to be Major and Surgeon. February 22, 1891.

Wilcox, Timothy E., Captain and Assistant Surgeon, to be Major and Surgeon. February 24, 1891.

Ainsworth, Fred. C., Captain and Assistant Surgeon, to be Major and Surgeon. February 27, 1891.

Havard, Valery, Captain and Assistant Surgeon, to be Major and Surgeon. February 27, 1891.

Birmingham, Henry P., Captain and Assistant Surgeon. Leave of absence for one month, with permission to apply for an extension of one month, is granted, to take effect upon arrival at Boise Barracks of First Lieutenant Robert R. Ball, Assistant Surgeon, U. S. Army. Par. 2, S. O. 39, Department of the Columbia, March 13, 1891.

Middleton, Passmore, Major and Surgeon, is, by direction of the Acting Secretary of War, relieved from duty at St. Francis Barracks, Florida, and will proceed to Newport Barracks, Kentucky, and await further orders. The travel enjoined is necessary for the public service. Par. 8, S. O. 62, A. G. O., Washington, March 19, 1891.

Naval Intelligence.—*Official List of Changes in the Medical Corps of the United States Navy for the week ending March 21, 1891:*

Cleborne, C. J., Medical Director. Detached from Naval Hospital, Norfolk, Va., and ordered to Naval Hospital, Chelsea, Mass.

Penrose, T. N., Medical Inspector. Ordered in charge of Naval Hospital, Norfolk.

Steele, John M., Passed Assistant Surgeon. Detached from Coast Survey Steamer Bache, and granted three months' leave of absence.

Gaines, James H., Surgeon. Placed on the Retired List, March 18, 1891.

Ruth, M. L., Surgeon. Granted one month's leave from April 2d next, with permission to leave the United States.

Marine-Hospital Service.—*Official List of the Changes of Stations and Duties of Medical Officers of the United States Marine-Hospital Service for the two weeks ending March 14, 1891:*

Long, W. H., Surgeon. Granted leave of absence for seven days. March 13, 1891.

Austin, H. W., Surgeon. To proceed to Baltimore, Md., for special duty. March 14, 1891.

Godfrey, John, Surgeon. Detailed as Chairman of Board for physical examination of officer of Revenue Marine Service. March 4, 1891.

Banks, C. E., Passed Assistant Surgeon. To proceed to Boston, Mass., on special duty. March 7, 1891.

Perry, T. B., Assistant Surgeon. Leave of absence extended thirty days. March 13, 1891.

Houghton, E. R., Assistant Surgeon. Detailed as Recorder of Board for physical examination of officer of Revenue Marine Service. March 4, 1891.

Society Meetings for the Coming Week:

Tuesday, *March 31st:* Boston Society of Medical Sciences (private).

Wednesday, *April 1st:* Society of the Alumni of Bellevue Hospital; Harlem Medical Association of the City of New York; Metropolitan Medical Society (private); Medical Microscopical Society of Brooklyn; Medical Society of the County of Richmond, N. Y. (Stapleton); Bridgeport, Conn., Medical Association; Penobscot, Me., County Medical Society (Bangor); Philadelphia County Medical Society.

Thursday, *April 2d:* New York Academy of Medicine; Society of Physicians of the Village of Canandaigua; Brooklyn Surgical Society; Boston Medico-psychological Association; Obstetrical Society of Philadelphia; United States Naval Medical Society (Washington); Washington, Vt., County Medical Society.

Friday, *April 3d:* Practitioners' Society of New York (private); Baltimore Clinical Society.

Saturday, *April 4th:* Clinical Society of the New York Post-graduate Medical School and Hospital; Manhattan Medical and Surgical Society (private); Miller's River, Mass., Medical Society.

Letters to the Editor.

A PROPOSED NEW TREATMENT FOR ANEURYSM.

Hale Avenue, Brooklyn, *March 16, 1891.*

To the Editor of the New York Medical Journal:

Sir: That our present methods of treating aneurysm, when affecting arteries near the heart, are worse than unsatisfactory all will admit, and, in reading the results of operations, a feeling generally arises that the patients would have lived longer if not interfered with surgically. The cerebral embolism and softening that frequently follow the ligaturing of the innominate or the common carotid artery are well known, while to insert a bunch of fine wire into an aneurysmal sac seems to me somewhat barbarous. To irritate the inside of the sac with needles is little better, and the hope of thus causing a deposition of fibrin will, I think, generally prove vain. But, with the admitted failure of present systems of treatment, why not try a radically different method? Not being at present engaged in surgical practice, it is with some diffidence that I propose a plan for others to try. When the aneurysm is accessible and consists of a sac at one side of the artery, let the blood be squeezed out of it, and then let it be tucked down to or, if large enough, wrapped around the artery from which it springs, and then let the whole artery, with its sac, be surrounded with a sleeve of silk cloth or some other tissue securely sewed together. If the aneurysm consists of an enlargement of the whole caliber of the artery, let it be compressed to near its normal size by wrapping a silk ribbon around it spirally, sewing the coils of the spirals together where accessible. It is, of course, understood that the materials used must be made aseptic, and that the method is not applicable to aneurysms whose rupture is imminent. Experience would determine the proper tissue to use for the "sleeve." If surgeons should find some method like this practicable, the least result to be expected, I think, is that patients would live longer than after present methods of treatment, for the normal circulation would not be interfered with.

If not excessively long, I do not think the "sleeve" would interfere with the nutrition of the coats of the artery.

Charles P. Becker, M. D.

DR. WOOLLEY'S CASE OF HYDRONEPHROSIS.

310 Sumner Avenue, Brooklyn, *March 14, 1891.*

To the Editor of the New York Medical Journal:

Sir: In your issue of February 21st allow me to supplement Case IV of the article Five Cases of Nephrectomy, by George R. Fowler, M. D. I would say that on Friday, October 31st, 2 a. m., I was called out of bed to attend a patient suffering in great agony. On my arrival at the house, I found a young married woman, twenty-four years of age, a lady of culture and intelligence, groaning under excruciating pain, which radiated from the right kidney through the ureter. I was told that she had passed through a marked and prolonged chill, lasting over half an hour. After controlling her sufferings by hypodermic injections of morphine, I was able to get a tolerably clear history:

Up to the age of sixteen she had enjoyed fairly good health, with the exception of measles and scarlet fever in early childhood. It was at this time she began to complain of pain in the right lumbar region, which she informs me was very severe. About six months afterward had a similar paroxysm. Never noticed any enlargement during or after these attacks, nor anything unusual with the water at these times. The first time her attention was called to an enlargement in her side was when she was about nineteen years old, one year previous to her marriage.

Shortly after her marriage, Dr. Walter R. Gillette, of New York, was consulted, and pronounced the tumor to be ovarian. As she was pregnant at that time, he said nothing could be done. She suffered greatly from a run-down condition for the first five months of her pregnancy, and from severe pain in the abdomen. Almost suddenly she sprang into a new state of existence, and said that for four months previous to the birth of her child enjoyed excellent health.

About one week after the birth of her boy she again complained of pain in the same region, but the attending physician, believing it to be ovarian trouble, gave nothing more than palliative treatment, the pain lasting only twenty-four hours.

She had the fourth attack about two years ago, and for the first time noticed the milky discharge. At this time a physician in Harlem tested the water and treated her for acute Bright's disease, declaring to the husband there was no tumor.

The fifth paroxysm came on last March, and for the first time was ushered in by a chill, with slight fever. At this time she was attended by no physician, and, when asked why medical attention was not sought, replied that she had become discouraged, as several had passed different opinions and were unable to help her. However, in a few weeks she was persuaded to see another physician, who pronounced her condition, from the examination of the water, to be chronic pyelitis.

After this history I went away and soon returned, but found her in a delirious state. Having made a chemical examination of the urine and found it contained about 40 per cent. of albumin, and fearing she was suffering from acute Bright's disease, I lost no time in directing my efforts in that direction, giving infusion of digitalis and applying digitalis leaves as a poultice over the region of the kidneys. In the interval I went back to my home and worked with the microscope, and there found that the specimen of urine contained no casts, but pus cells in great abundance, and stratified epithelial cells that could come from no other place except the ureter and pelvis of the kidney.

In the evening I found her very weak—pulse 130, and temperature about 102° F. I made an examination through the vagina; felt a large-sized tumor, but excluded the uterine appendages. After percussion, concluded that the whole thing was attached to and referred to the right kidney. At this time she was suffering from great dyspnœa; fearing it was produced by digitalis, I discontinued it and gave fifteen grains of chloral and fifteen grains of bromide, which was repeated in two hours—all of which failed to produce sleep or even quiet her.

On Saturday morning I called, to learn not only that the three large doses of bromide and chloral had failed to produce sleep, but that she had been quite delirious at intervals and that her pulse had reached 160 and temperature 104°. At this time I felt positive, from the symptoms and the knowledge I had gained from the microscope, that the lady had a suppurating kidney and that the marked constitutional symptoms, together with a diarrhœa, pointed to septic or blood poisoning. I at once instituted a decided antiseptic treatment combined with the use of whisky, and told the husband I wished a consultation, urging upon him the necessity of an operation, with perhaps a removal of the kidney, as the only hope of saving her life.

Dr. George R. Fowler, according to my request, met me, and, to confirm my diagnosis and be sure that the other kidney was not involved, he resorted to the expedient described in his article.

By that method the doctor was enabled to obtain corroborative evidence of the tumor being the source of the pus in the urine. He advised me to push my stimulants to the extent of an ounce of whisky every hour in milk, which I did; but in a few hours her stomach rebelled, and I substituted large quantities of champagne, which had the effect of quieting the nausea; yet, notwithstanding the strict antipyretic measures, her temperature again mounted to 104°, with a pulse of 160. On Monday morning her temperature came down to 102° after giving four drachms of the infusion of digitalis and two grains of quinine every three hours. In the evening of that day her temperature and pulse remained about the same. On Monday morning there was a decided drop in the temperature, which was about 100° and pulse 120. At 10 a. m. on November 4th Dr. Fowler came prepared to remove the kidney, assisted by Dr. Delatour and myself, Dr. Gillette, of Greenpoint, administering the ether.

After the operation my patient seemed to feel the effects of the shock, but rectal injections of whisky and hypodermic injections of morphine soon rallied her. Called that evening and found her doing well, with a pulse of 100 and temperature 100°. The next morning was called out of bed, but only to find her suffering intensely from the operation, and that she had been unable to sleep. I gave her an eighth of a grain of morphine hypodermically, which relieved her, producing sleep.

On Wednesday morning her temperature became normal, with a pulse of 112. The first specimen of urine after the operation contained about twenty-five per cent. of albumin, while the second specimen had only seven per cent., and the microscope showed a little epithelium and a few pus cells.

During the first twenty-four hours she passed about twenty-five ounces of urine of a specific gravity of 1·025.

On Thursday her temperature was a little above the normal, with a pulse of 110. Made an examination of the urine and found that it contained no albumin, and the quantity and specific gravity were about the same.

On Friday, temperature 99·5°, with a pulse of 116. Passed a good night and slept well. In the afternoon Dr. Fowler and I washed out and dressed the wound again.

On Saturday her pulse and temperature were about the same. She had some pain, for which I gave a small quantity of tr. opii deod. This day passed twenty ounces of urine, with a specific gravity of 1·020.

On Sunday found her doing better, with a normal temperature and pulse about the same.

Passed an excellent night. Comparatively easy. Looks brighter than ever. There seems to be a good volume to the pulse. At 4 p. m. met her again with Dr. Fowler, and we washed out and dressed the wound, which was doing well. We found her pulse irregular and intermittent. Ordered sulphonal instead of opium in ten-grain capsules and strophanthus in place of the digitalis. Quantity of urine the last twenty-four hours was twenty-five ounces, with specific gravity 1·018 and free from all trace of albumin.

On Monday I called at 10 a. m. to learn she had passed a wretched night; the sulphonal did not take effect until late in the morning. Her pulse had dropped down to 60 and was very intermittent. Stopped the strophanthus and called again in the afternoon and found her better, with a more rapid but intermittent pulse. The amount of urine the last twenty-four hours was twenty-three ounces, specific gravity 1·018, containing mucus and very ammoniacal. I washed out the bladder with a saturated solution of boric acid for the cystitis, which seemed to greatly help her.

On Tuesday called at 10·30, when Dr. Fowler and I again dressed the wound and found that a large part of it had united by first intention, while the other, in which the drainage-tube was placed, was healing by granulation. At this time her pulse was 100 and temperature normal. Called again in the evening to find her cheerful, with a good, regular pulse and temperature 99°. Has been taking three pints of peptonized milk, and for the past two days I have given nothing for the action of the heart save an ounce of whisky with two grains of quinine every four hours, and have not been obliged to resort to any sedative for sleep.

Passed during the last twenty-four hours thirty-two ounces of urine; no albumin, and specific gravity 1·017.

On Friday her temperature was about 99° with a pulse of 96, full and regular. The quantity of water passed was twenty-six ounces and the specific gravity the same.

On Saturday morning the wound was again dressed and only a very short drainage-tube left. The discharge was slight and free from all odor. The temperature to-day was 98° with a pulse full and strong. The amount of water was increased, but it contained large quantities of earthy phosphates and amorphous urates. Gave her ten grains of benzoic acid three times a day, which was followed by improvement.

On Sunday called to learn she had passed a very good night without the use of any sedative; in fact, found her very bright, hopeful, and free from all pain. Temperature 98°, with pulse about 90, full and regular.

On Tuesday morning, November 18th, this being the fourteenth day after the operation, Dr. Fowler called with me for the last time, the dressings being left with me. Her condition was fairly good, but the urine was strongly ammoniacal. Having failed with the internal administration of benzoic acid, and her water being filled with the earthy phosphates, concluded to give her half-drachm doses of dilute hydrochloric acid. This seemed to help, but failed to relieve the cystitis; so on Wednesday concluded to wash her bladder out again with a saturated solution of boric acid. This had the effect, partly relieving the burning sensation and frequent micturition. This day she passed twenty-eight ounces of urine, with less mucus and phosphates.

On Thursday I again washed out the bladder, first with an alkaline solution, following it with a saturated solution of boric acid. In a few hours afterward I took a specimen of the water and examined it, both chemically and microscopically, and there was no evidence of pus or anything that would indicate trouble with the other kidney.

To-day I dressed the wound, which is doing nicely, with the exception of a few granulations, which I touched with sulphate of copper. Her temperature normal and pulse 96. She is doing so well that I call only once a day. On Sunday, November 23d, her temperature is still normal, and I again washed out the bladder, using sulphate of zinc, fifteen grains to the ounce, with one drachm of fluid extract of *Pinus canadensis.* This was followed with good results, and I prescribed the following pill:

℞ Quin. sulph.	ʒ j;
Ext. nucis vom.	gr. iv;
Ferri sulph.	gr. xx.

M. Div. in capsul., No. xx.

Sig.: One to be taken every four hours.

Suffice it to say, it being over four months since the operation, she now comes regularly to my office twice a week for slight uterine trouble, and is able to go about the city and attends social gatherings without the slightest inconvenience, and the quantity of urine passed daily is from thirty to forty ounces.

Having had this patient under close observation, allow me to differ with Dr. Fowler, and to say that her trouble was not from a congenital hydronephrosis, but from a chronic cystitis that extended up the ureter, producing an obstruction and pyonephrosis resulting in a suppurative condition. The subject before us is one of extraordinary importance, and I hope by its presentation it may be the means of creating greater care as to details, and insuring on the part of the profession the need of such attention. The interest in this case becomes all the more marked when you learn that she passed through the hands of several practitioners, some of whom are eminent, and all gave a different diagnosis. I do not wish to be thought egotistical or possessing any special knowledge, but only to call attention to the importance of individualizing our cases, scrutinizing and studying them closely. Had the physicians into whose hands she had previously fallen exercised the same care and study of the case, there could have been no mistake of diagnosis. If I had failed to use the microscope and carefully examine the uterus, my attention would never have been called to a suppurating kidney.

In conclusion, permit me, then, to emphasize the importance of an early diagnosis, and the urgent necessity for operative interference.

D. Morris Woolley, M. D.

Proceedings of Societies.

NEW YORK SURGICAL SOCIETY.

Meeting of February 11, 1891.

The President, Dr. Charles K. Briddon, in the Chair.

Old Dislocations of the Shoulder treated by Excision of the Head of the Humerus.—Dr. F. W. Gwyer presented a patient upon whom he had operated for the condition indicated. The patient's case formed the basis of the subject-matter for the paper of the evening by Dr. Gwyer. (See page 362.)

Dr. J. A. Wyeth said he thought it would be wise to make a rule limiting the operation, which was difficult and not free from danger, to that class of cases in which the dislocation had existed for a long time and in which the adhesions were marked and the mobility of the limb was much impaired. In such cases he thought that the operation was quite admissible, but even when undertaken it should not be complicated by the employment of any great force in the attempt at reduction.

Dr. Charles McBurney said that he should be inclined to favor the operation in cases where there was great loss of function of the arm or constant pain. He thought it was a reasonable and perfectly legitimate operation.

Dr. F. Lange said he had had no personal experience with the method under discussion. In one case, brought to him six weeks after injury, there had been fracture of the greater tuberosity, and this had seemed to constitute the principal impediment to reduction. The operation had in this case been quite tedious, the tuberosity appearing to be in connection with the periosteum, and this with the callus formed a mass which held the neck of the humerus so that it could not be brought back. The tuberosity was removed subperiosteally and an incision was made in the axilla in order to free the adhesions. After some efforts the head of the bone was carried to its proper place. The result was a good one.

Dr. A. G. Gerster narrated the case of a man who had come under his care after a number of unsuccessful attempts had been made by others to reduce his dislocated shoulder. The speaker had then made every effort in the same direction, under anæsthesia, but without effecting the desired result. He had then slit through the capsule and had found that the greater tuberosity was fractured and that it had already healed solidly to the shaft of the bone at a point quite distant from its original habitat. It was very difficult to free the head of the bone, and a very long incision was necessary in order to gain space. The bone was at length freed and restored to its place. The operation was not without risks; for instance, in dissecting out the mass of adhesions it was impossible to tell what might be incorporated in the mass. In the case he had related the result had been satisfactory.

Two Cases of Removal of the Thyreoid Gland.—Dr. F. Kammerer presented two female patients upon whom he had recently operated for pathological conditions of the thyreoid gland. In one of the cases he had enucleated a circumscribed parenchymatous node, and in the other he had removed the entire gland, leaving a sufficient portion for the performance of whatever might be the physiological function of the gland. In this latter instance he had practiced the method of extirpation and resection lately recommended by Kocher. One of the patients, a Swiss girl, had had the tumor from childhood, but it had only recently begun to interfere with her general well-being. The enucleation was very simple. An incision was made in the median line, and, after cutting through a glandular capsule about a quarter of an inch in thickness, the solid tumor was turned out without difficulty. In the case of extirpation he had left only a portion of the gland of about the size of half an orange, corresponding to that part which received its blood-supply from the right inferior thyreoid artery. In cutting through the thyreoid tissue no serious hæmorrhage occurred.

Intussusception.—Dr. Lange narrated the history of a case of intussusception that he had recently treated in which the invagination had commenced at the junction of the ileo-cæcal valve and the junction of the valve had appeared at the anus. The child had for a long time previously suffered from an intestinal catarrh, and several months before the accident which he was recording a small protrusion of the rectum had taken place. The last serious attack had occurred only a few days ago. The child was sitting on the chamber and was straining hard, when it was noticed to turn pale and to exhibit symptoms of pain. Examination revealed a large piece of the intestine protruding. The physician called in made an attempt to return the bowel, which was only to a certain extent successful. The speaker was called in consultation, and found the child's general condition such as to indicate immediate operative interference, since any further attempts must prove fruitless, and he proceeded to do laparotomy, making an incision sufficiently extensive to allow of the invaginated portion of the gut being brought well into view. It then became apparent that any attempt at traction from above would be of no avail. He then directed Dr. Jones to push on the intestine from below, and by these combined manœuvres they succeeded in dislodging the invaginated portion until the speaker could pass his hand below it from within the abdominal cavity. Persistent manipulation at last effected the reduction. The region of the ileocæcal valve could not be entirely disinvaginated, as there was present a hard ring, resulting probably from a slight persistent invagination at this point, of long standing, giving rise to adhesions which had become permanent. As a measure of precaution he then passed several catgut sutures between the mesentery of the ileum and the mesocolon. This little patient had made a very good recovery, though his intestinal catarrh still seemed to continue.

Dr. Lange then showed a specimen from a case similar to the preceding. The patient, a child about a year old, had suffered from acute intussusception for five days, and in this case the speaker had found it absolutely impossible to effect reduction, on account of the intense swelling of the middle layer of the invagination, and he had been obliged to make an anastomosis between the ileum and the sigmoid flexure. The child died in collapse eight hours after the operation.

Dr. Kammerer said that in the case in which he had been called upon to do this operation he had experienced great difficulty in finding the intussusception at first, but directly the child was put under an anæsthetic the tumor was easily made out.

Dr. McBurney gave the histories of two cases of intussusception which had come under his care. One was about a year ago, and the accident had occurred in a child fifteen months of age. The ileum had entered at the caput coli, passing up the ascending colon, across the transverse colon, and down the descending colon, and stopping at a point on the large intestine just below the splenic flexure. When the patient was seen by the speaker the trouble had existed three days, gangrene had set in, and it was impossible to do anything useful. Another case in which he had operated was that of a boy of about fifteen whom he hoped to present to the society at the next meeting. In both cases he had been impressed with the importance of early surgical interference in these emergencies.

Appendicitis. — Dr. McBurney presented an appendix which he had recently removed post mortem, and the history of the case he thought pointed a moral. He had been called to see a lady residing out of the city. He had found the patient to be a healthy-looking, vigorous woman of about thirty-six. The speaker's visit was made on a Saturday and the lady gave the history of having been seized with a sharp abdominal pain on the preceding Wednesday. The symptoms had persisted and had been such as to call for the diagnosis of appendicitis from her attending physicians. The speaker found the local signs such as to warrant him in urging immediate operation, especially as the general condition of the patient was all that could be desired at the time. For some reason the patient's friends concluded to wait, and, much to the speaker's regret, he had to return to the city without operating. Thirty-six hours subsequently he received a dispatch begging him to come and operate immediately. He found the patient presenting all the appearances of intense sepsis. The local conditions seemed unchanged and there was no indication of the existence of abscess, except that the tumor was partially concealed by the increased tympanites. There was also diminished sensitiveness. Of course the case was hopeless. The patient could not have survived the administration of an anæsthetic. By great efforts she was kept alive for six days, though there never was a moment during that period when an operation would have been admissible. An autopsy was made at the request of the friends, who, he thought, were somewhat hopeful that the diagnosis had been a mistake. One of the points of clinical interest in this case was that the temperature had never but once reached 101° F. The condition of things at the post-mortem showed how absurd it was to depend upon the temperature range in these cases as in any way indicative of the severity of the disease. There was extensive abscess formation and the peritoneal cavity was found full of liquid fæces. Within the inflamed portion of the appendix there were still two concretions, but with no inflammatory action about them. If the abscess had been opened, these two concretions would have remained in the appendix and have probably given rise to future trouble. The abscess had opened into the small intestine, and had also passed up to the liver by the side of the colon. Upon the small intestine could be seen a large ulcerated area. At the point where perforation had occurred fluid fæces had escaped into the abdominal cavity, and it was this that had probably caused the final collapse of the patient.

Aneurysm of the Innominate Artery.—Dr. Frank Hartley presented a specimen of an aneurysm which had been operated upon some six years and a half before by Dr. McBurney. At that time the subclavian and common carotid were both tied. The patient had made a complete recovery and had recently died of Bright's disease at the hospital. The man had not suffered from any pressure symptoms up to a week before his death. The aneurysmal sac was found filled with a large laminated clot. The specimen had been prepared by Dr. J. S. Ely for the Museum of the College of Physicians and Surgeons.

NEW YORK NEUROLOGICAL SOCIETY.

Meeting of March 3, 1891.

The Vice-President, Dr. B. Sachs, in the Chair.

An Hereditary Type of Motor Tabes.—Dr. Philip C. Knapp, of Boston, read a paper with this title. The case forming the subject of his remarks was one of muscular atrophy occurring in a man thirty-four years of age. The trouble had commenced with fibrillary twitchings in the muscles of the right thigh, followed by weakness and atrophy. There were no sensory disturbances. Faradaic excitability was lost and galvanic excitability diminished, and the contractions were slow, but there was no change in formula. The disease progressed steadily, both legs becoming helpless and atrophied. The fibrillary twitchings finally appeared in the muscles of the shoulder and upper arm. There was a history of a kick in the right thigh, not of a very serious character, a few months before the onset of the symptoms. There was also a history of a peculiar affection in the patient's mother's family, of which the mother and at least four others in preceding generations had died. The affection was marked by paralysis of all the limbs, and in no case had there been atrophy. All the attacks had come on in middle life. The case reported was regarded as of spinal origin, and it was thought that the family disease was also spinal. In connection with this case an instance of typical Aran-Duchenne atrophy beginning in the thumb muscles was reported, where the patient's father had died of a similar trouble. A case of progressive atrophy with bulbar symptoms was also cited, dating from a fall on the elbow.

Dr. W. R. Birdsall said that the history detailed in the paper had brought to his mind numerous cases of traumatic tabes in which accident had developed some local sensory or motor neuroses a good many years before the usual types of symptoms of tabes were determined. Still he did not think that the pathology of these cases was at all clear. There was little doubt, however, that a slight traumatism might form the point of origin where there already existed a family taint or a condition of the spinal cord favorable to the development of tabes. In the case cited by the author of the paper there were indications approaching traumatic tabes, and time might develop other symptoms of myelitic disease.

Dr. E. D. Fisher admitted that the injury might have had its influence. The hereditary cases were likely to have been a mixed form of spinal disease with motor symptoms of involvement of the posterior columns with the class of symptoms of sensory tabes. Such a case as the one reported might be looked upon as one of hereditary disease.

The Chairman said that, while the suspicion of hereditary trouble in the author's case was great, still the traumatism was a factor which could not be overlooked, and this, with the hereditary predisposition, might have acted as an exciting cause. The symptoms pointed to the myelopathic form of the disease, with fibrillar tremor and characteristic degeneration. They had all seen cases of progressive muscular atrophy which had begun in the leg without any hereditary history. With further observation of the case under discussion the question could be tested whether the symptoms presented any new type of the hereditary form.

Dr. Knapp thought the question of sensory tabes in his case was hardly worth consideration, the occasional pains in the leg being the only sensory symptoms.

A Case of Spastic Paraplegia; Compensatory Gait.—Dr. Birdsall presented a child with a history of spastic paraplegia which had supervened upon a severe instrumental extraction at birth. He thought the case of interest because, while the child was only affected on the right side, which caused it to walk upon the toes of the affected foot, it so adjusted the position of the other foot as to secure a kind of compensatory gait which enabled it to get about with more or less facility.

Dr. F. Peterson said the case appeared to him to exhibit symptoms of hemiplegia of one side and monoplegia of the other side, which Dr. Birdsall considered was unaffected, or, in other words, a partial diplegia. There was certainly considerable adductor spasm with cross-legged position and exaggeration of reflexes, with contractures of the feet. He had seen a large number of cases of spastic diplegia in which all the extremities except one arm were involved.

The Chairman thought that the child had sufficiently marked symptoms of diplegia, except that the left arm and the left leg were not much involved. The knee-jerk was exaggerated on each side. It seemed to him that the difference between the two sides was that the contractures on the left side had relaxed and that the child had consequently learned to use the leg a little better than the other.

Clinical and Pathological Observations on Injuries of the Cervical Spinal Cord.—This was the title of a paper by Dr. C. A. Herter. The histories of five cases of injury to the spinal cord were detailed. The first four were all examples of severe crushing; the fifth was an instance of injury to the cervical vertebræ with relatively slight damage to the nervous structures in this region. Among the most interesting features of these particular cases were their bearings upon the localization of the functions of the cervical cord. In Case I there was an upward extension of the motor paralysis from the interossei and flexors of the fingers to the extensors of the fingers and wrists, the pronators and supinators, and the tricipites, bicipites, and deltoids, successively. In Case II the order of advance was much the same. In both cases the anæsthesia occupied the body and legs below a V-shaped line across the upper part of the chest, and the inner half of the arms, forearms, and hands. While the motor symptoms progressed upward in both cases, the area of anæsthesia made no advance. When the patients were first seen they presented essentially the same motor and sensory phenomena—namely, weakness of the hand muscles and the distinctive anæsthesia above mentioned. The cord lesion was the same in both cases—*i. e.*, complete crushing at the eighth segment, and partial softening of the seventh and sixth segments. There was no doubt that the peculiar distribution of the anæsthesia was due to the crushing of the eighth segment. In both cases the bone lesion was a fracture-dislocation of the sixth upon the seventh cervical vertebra. In three of the four cases there was pressure of the displaced or fractured vertebræ upon the cord at the time of the operation or autopsy. In all total transverse lesions of the cord, and especially in those of the cervical and lumbar enlargements, certain symptoms were referable to the damage of the cord as a central organ, as opposed to those symptoms which depended on the obliteration of the functions of the cord as a conductor of impulses. These symptoms in the cervical region included loss of power and cutaneous sensibility, muscular atrophy, and degenerative electrical reactions. In two of the cases (IV and V) there were abdominal symptoms worthy of note. In each case, on the day after admission, the abdomen became tympanitic and exceedingly tender to pressure, and repeated vomiting occurred, the vomitus having at one time a greenish color. The abdominal distention became very great, but began to subside, together with the pain and tenderness and vomiting, in the course of a few days. The temperature in cases of injury to the cervical cord varied much according to the severity of the damage. The last feature of these cases to which it was desired to call attention was the state of the reflexes, especially that of the knee-jerk. The superficial reflexes, cremasteric, plantar, and abdominal, were commonly lost from the beginning in cases of complete crushing of the cord, but a day or two sometimes passed before they were all lost. If the patients survived for several days or a week, some or all of the superficial reflexes returned. In all four of the cases of complete crushing of the cervical cord the knee-jerks were abolished from a very early period after the accidents which caused these crushings respectively. The motor and sensory paralyses below the level of the lesion were complete, and in all the termination was fatal. It might safely be concluded that when bilateral loss of the knee-jerks followed immediately upon a sudden lesion of the cervical cord, we had to deal with a case of extensive and total transverse damage to the cord, and that the patient would die from it. It was not urged, of course, that this diagnostic and prognostic sign should be used to the exclusion of other associated conditions. These considerations led to one important practical conclusion—namely, that patients with crushing of the cord presenting complete or considerable paralysis of motion and sensation below the lesion, and associated with loss of knee-jerks, should not be operated upon.

Dr. Knapp said that the point brought forward by the reader of the paper upon the question of the inhibitory suppression of knee-jerk was of interest, as he had advanced the same idea many years ago. His case had been one of transverse myelitis, but not of traumatic origin. Entire absence of knee-jerk had been observed. Some weeks after, when the irritative processes had ceased in the lower portion of the cord, there were very pronounced exaggerations of the knee-jerks, with ankle and patellar clonus.

Dr. Fisher said it was a question whether, if the lesion was not destructive but simply of an irritative character, there would be a loss or an exaggeration of the reflexes. He thought that the irritation must be very severe indeed to give rise to loss of knee-jerk.

The Chairman said that the phenomena connected with the loss of knee-jerk were quite different in cases of chronic cervical diseases. Its sudden abolition was entirely restricted to these cases of traumatism.

Dr. Herter said that cases were on record of slow inflammatory processes resulting in loss of knee-jerk, but he had never seen such a case.

AMERICAN LARYNGOLOGICAL ASSOCIATION.

Twelfth Annual Congress, held at Baltimore, on Thursday, Friday, and Saturday, May 29, 30, and 31, 1890.

The President, Dr. John N. Mackenzie, of Baltimore, in the Chair.

(*Concluded from page 105.*)

Stricture of the Œsophagus from Interstitial Thickening of its Walls: a Fibroid Hypertrophy.—Dr. John O. Roe, of Rochester, N. Y., read a paper on this subject. (See page 289.)

Dr. Langmaid: The paper just read brings up a question of treatment. I would ask if the reader has had any experience with the use of permanent tubes in the œsophagus.

Dr. Roe: I tried that method in this case, but the patient could not endure it. The tube caused strangulation, and, in swallowing, fluids found their way into the larynx, so that she could not retain it.

Dr. Mulhall: Was the rigidity of the crico-arytænoid joints discovered post mortem?

Dr. Roe: It was discovered with the laryngoscope during life, and was confirmed on post mortem examination. The patient spoke in a monotone; there was no modulation of the voice at all—just as in an ordinary case of paralysis of the posterior crico-arytænoid muscles.

Dr. Mulhall: Was there any paralysis present?

Dr. Roe: Yes; probably from pressure.

Dr. Mulhall: But in addition there was also partial ankylosis. Was the patient iodized?

Dr. Roe: Yes; she had been given iodide of potassium in large quantities before I saw her, but with no effect on the condition of the larynx. There was in this case every evidence that there was paralysis of the larynx. The paralysis of the posterior crico-arytænoids might have taken place first, and the involvement of the tissues surrounding the joints favored the occurrence of ankylosis.

Dr. Mulhall: I have made two post-mortems this year; both were in cases of malignant disease in which pressure was made upon both recurrent laryngeal nerves sufficient to destroy their function. The cords in each case were in the cadaveric position. In neither case was there the least ankylosis of the crico-arytænoid joint, although there had been no motion for some months. That is why I asked the question. Does the author think that the ankylosis was the cause of the appearance he noted in the larynx?

Dr. Roe: No. There was infiltration of other tissues in the larynx which accounted for it.

Dr. Mulhall: The question is of practical interest in this way. We get a case of paralysis of the abductors which has lasted, say, six or nine months, with not much if any motion in the crico-arytænoid joints all this time; it is treated with iodide of potassium, and the patient recovers the voice completely. I can not see why this joint should not regain its original mobility when the original cause of trouble is removed. Why should there be any permanent loss of motion from this cause? I do not understand it, unless there is disease of the articular surfaces.

Dr. Bosworth: There could not be a better illustration of the point I made in my paper yesterday. Here was loss of motion not due to paralysis at all, but to infiltration and ankylosis of the crico-arytænoid joints. The ankylosis occurred in such a position as to produce the appearance of abductor paralysis, with the cords in the median line without paralysis at all. Many would be misled by the appearance and pronounce it a case of paralysis. Some cases of so-called paralysis are not paralysis at all. The observation of pressure upon the recurrent laryngeal nerve is interesting, but it had nothing at all to do with the paralysis.

Dr. Roe: I said that the paralysis might have antedated the ankylosis. I did not assert that it did. Both the nerve-trunks were surrounded by infiltrated tissue.

Dr. Bosworth: There was no evidence of paralysis of both recurrent laryngeals, however. My observation is that when there is pressure upon the recurrent laryngeal nerve there will be paralysis of the nerve; there will be paralysis of all the muscles supplied by the nerve. I do not accept Semon's statement that certain fibers in the trunk of this small nerve may be paralyzed and others escape. It is a most extraordinary statement. Disease or pressure does not discriminate in this way. Pressure upon the nerve will entirely destroy the function of the nerve, and affect all the fibers passing through it.

Book Notices.

A Guide to Operations on the Brain. Illustrated by Forty-two Life-size Plates in Autotype, and Two Woodcuts in the Text. By Alec Fraser, Professor of Anatomy, Royal College of Surgeons in Ireland. London: J. & A. Churchill, 1890. Pp. 24.

This issue represents the first portion of what promises to be a superb work, upon the preparation of which the author has been engaged for six years. Recognizing that the morphological anatomist of to-day must spare no pains in perfecting the illustrations of the subject upon which he writes, he has availed himself of the most advanced photo-mechanical methods. The plates, forty in number, are all of life size and are autotype reproductions of a series of photographs delineating the anatomy of the contents of the cranial and cervical spinal cavities. The pictures are a triumph of the photographic art. By an ingenious method the author has been able, after taking a set of negatives of the external surfaces of the head and neck of a prepared subject, to photograph upon these negatives the subsequent progressive dissections. Thus a series of composite pictures is obtained following a natural method of dissection from without inward. By means of measuring tapes photographed upon the external views the exact relations of the underlying structures to the surface measurements are depicted with startling effect. With such a work at his command the surgeon requires no neurological specialist at his elbow to give the preliminary hints on topography in a case of brain exploration. The text is tersely appropriate and explanatory of the author's procedures in obtaining the beautiful photographic results and of the uses to which the illustrations may be put as aids to operative work.

Diseases of Women and Abdominal Surgery. By Lawson Tait, F. R. C. S. Edin. and Eng., LL. D., M. D. (honoris causa) of the University of the City of New York, etc. Vol. I. Philadelphia: Lea Brothers & Co., 1889. Pp. viii–547. [Price, $3.]

This is a singularly satisfactory work, inasmuch as it is devoid of padding and contains the results of the author's large gynæcological experience, which, as he says, brilliantly demonstrates that "the day has gone by when the treatment of pelvic and abdominal diseases, so prevalent among women, and relatively so rare among men, was regarded as a mere appendix to the work of the accoucheur," and that "the old-fashioned mechanical school—the teaching of the speculum, the sound, the caustic-stick, and the pessary—has been practically killed, and an advanced eclecticism now prevails." Not only has this condition of affairs "grown out of the wonderful revelations obtained by the experiences of operative surgery," but also results from the greater analytical spirit that has impressed its seal upon all earnest seekers after knowledge and has led our author, with others, to seek for the final causes of disease rather than to content himself with the unsatisfactory results given by a more or less blind treatment of symptoms. His usual vigor in exposing misconceptions is well illustrated by his remarks on vaginismus, which expression he deems a cloak for ignorance and imperfect examination, the symptoms so denominated being nearly always due to the presence of a urethral caruncle and not to the contractions of a hypothetical muscle whose existence is that of a dissecting-room curiosity.

Flushing and Blushing: their Pathology and Treatment. By Harry Campbell, M. D., B. S. (Lond.), Member of the Royal College of Physicians, London, etc. London: H. K. Lewis, 1890. Pp. x–3 to 270.

This is a study for which one should be thankful. What searcher after the final causes of circulatory symptoms but has rung the changes on the probable sequence of nervous or circulatory disorders, finding them so entangled that only death could disjoin them? Dr. Campbell comes to our rescue, and the table of contents alone opens to our eyes a panorama of minute and careful observation of all the probable variants of this most perplexing problem.

Why are we hot, why are we cold, why is our ordinary temperature's calm broken by "flush-storms" whose curve, like all curves, ascends, attains its acme, and descends?

Here we have eddies of "emotional ebullition," there whirlpools of sweating or of tears; now hurricanes of shivers, then cyclones of heat. Earthquakes of tremor shake us, fear, "stifling grief," despondency paralyze us.

All is quiet again; the explosion, the vaso-motor storm and its accompanying phenomena are ended.

The emotional and intellectual states connected with the vaso-motor storm indicate in flushing and blushing a nervous heredity, akin perhaps to that of epilepsy, having its primary seat in the highest centers and calling for prophylactic as well as therapeutical measures to correct the evil.

BOOKS AND PAMPHLETS RECEIVED.

Koch's Remedy in Relation specially to Throat Consumption. By Lennox Browne, F. R. C. S. Edin., Senior Surgeon to the Central London Throat, Nose, and Ear Hospital, etc. Illustrated by Thirty-one Cases and by Fifty Original Engravings and Diagrams. Philadelphia: Lea Brothers & Co., 1891. Pp. 11–114.

The Year-book of Treatment for 1891. A Critical Review for Practitioners of Medicine and Surgery. Philadelphia: Lea Brothers & Co., 1891. Pp. 480.

Les virus. Par le Dr. S. Arloing, Correspondent de l'Institut, directeur de l'École vétérinaire, etc. Avec 47 figures dans le texte. Paris: Felix Alcan, 1891. Pp. viii–380.

Des résultats immédiats et éloignés du traitement électrique des fibromes utérins par la méthode du Docteur Apostoli. Par Mlle. Félicia Jakubowska, docteur en médecine de la faculté de Paris. Paris: Octave Doin, 1890. Pp. 91.

Minor Uterine Surgery. By Charles P. Noble, M. D. [Reprinted from the *Annals of Gynæcology and Pædiatry.*]

Primary Perineorrhaphy. By Charles P. Noble, M. D. [Reprinted from the *Medical Age.*]

Bassorin Paste; a New Base for Dermatological Preparations. By George T. Elliot, M. D., New York. [Reprinted from the *Journal of Cutaneous and Genito-urinary Diseases.*]

Moral Insanity. By W. P. Spratling, M. D., Morris Plains, N. J. [Reprinted from the *Medico-legal Journal.*]

The Anatomy and Physiology of the Faucial Tonsils with Reference to the Absorption of Infectious Materials. By Eugene Hodenpyl, M. D. [Reprinted from the *American Journal of the Medical Sciences.*]

The Rational Treatment of Uterine Displacements, based upon a Consideration of the Pathological Conditions Present. By Augustin H. Goelet, M. D., New York. [Reprinted from the *American Journal of Obstetrics and Diseases of Women and Children.*]

Trendelenburg's New Operating-table, designed for Operations in the Posture bearing his Name. By Willy Meyer, M. D. [Reprinted from the *Medical Record.*]

Observations upon the Capacity of the Stomach in Infancy. By L. Emmett Holt, M. D. [Reprinted from the *Archives of Pædiatrics.*]

A Case of Spina Bifida with Suppurative Spinal Meningitis and Ependymitis due to Bacteria entering the Wall of the Sac. By L. Emmett Holt, M. D., and Ira Van Gieson, M. D. [Reprinted from the *Journal of Nervous and Mental Disease.*]

Resection of the Optic Nerve. By L. Webster Fox, M. D., Philadelphia. [Reprinted from the *Medical and Surgical Reporter.*]

Address on the Germ Theory of Disease, with Special Reference to Kochspiel, to the Glasgow Medical Literary Society. By D. Campbell Black, M. D., etc.

Ueber Schweiss- und Talgdrüsensecretion. Von Dr. Max Joseph, in Berlin. [Separat-Abzug aus *Archiv für Anatomie und Physiologie.*]

Colorado Springs—ein Zufluchtsort für Phthisiker. Von H. B. Moore, M. D. [Sep.-Abdr. aus der *Wiener klin. Wochenschr.*]

Transactions of the Iowa State Medical Society for the Year 1890. Held at Des Moines, April 16th, 17th, and 18th.

Reports on the Progress of Medicine.

OPHTHALMOLOGY.

By CHARLES STEDMAN BULL, A. M., M. D.

(*Concluded from page 350.*)

Hyperplastic Inflammations of the Membranes of the Eye.—Schöbl (*Arch. of Ophthalmology*, xix, 4) draws the following preliminary deductions concerning hyperplastic inflammations of the membranes of the eye: 1. Ætiologically, hyperplastic inflammation, in the majority of cases, seems to be the result of injury to the eyeball, but may also result from long-continued idiopathic purulent inflammation. It occurs more often in badly-nourished, reduced individuals, and attains the most remarkable development where a certain vulnerability and capability of reaction to diverse irritations on the part of the membranes seems to exist. Youth and childhood seem to predispose to their development. 2. When observed clinically the inflammation appears under the likeness of an intra-ocular or extra-ocular tumor, generally glioma. It may, however, simulate a tumor already extruded from the interior of the globe, or an irido-chorioiditis with apparently enormous cyclitic products in the vitreous. 3. Anatomically, hyperplastic inflammations of the membranes of the eye are very similar to the granulation process which leads to hyperplasia, and form a natural transition from inflammatory to neoplastic processes. These growths are generally accompanied by enormous exudation from the blood-vessels, and augmentation of round cells and intercellular substance and new formation of the former, and so to the formation of granular tissue; then to the development of round cells into connective tissue, and exceptionally to cells which can not be distinguished morphologically from epithelium. 4. Where malignant tumors can not with certainty be excluded, where the pain is extreme, or when the development of sympathetic trouble in the fellow-eye is to be feared, enucleation should be done as promptly as possible.

Distichiasis and Trichiasis Operations.—Jaesche (*Arch. of Ophthalmology*, xix, 4) thinks that in all operations of this nature the first point to be considered is the preservation of the eyelashes, and, secondly, the avoidance of a rough cicatricial eyelid which would constantly irritate the eye. In operating he uses an instrument the fundamental principles of which were suggested by Desmarres's lid-clamp. It consists of a plate, to be passed under the upper lid, and a ring-shaped piece, which rests upon the surface of the lid; these two parts are connected by an arrangement like a forceps. The lower arm of the instrument ends in a round curved plate, 1 millimetre thick and measuring 24 millimetres from side to side at its broadest part, and 18 millimetres from before backward. The apex of the curvature is about 4 millimetres from the plane of the arm to which it is attached. Just above the middle of this plate there is a slightly curved transverse notch, 1·5 millimetre wide, its anterior border 18 millimetres long, and its posterior border 21 millimetres long, the two being, therefore, joined together at an acute angle. The curvature of the notch has a radius of 3·9 centimetres. The upper arm ends in an oval ring, curved in the same manner as the lower plate, so that the two surfaces may be closely adapted to each other. The upper side of this ring is 1·5 millimetre wide; its lower side is 0·5 millimetre wide. It is 2 millimetres thick. The ring is bridged over from side to side by a bar, which crosses it, of the same dimensions as the rest of the ring. The radius of curvature of this bar is the same as that of the transverse slit in the lower plate, and is so arranged that it corresponds exactly to the lower border of this slit when the instrument is closed. The arms of the forceps are 12 centimetres long, and are bent upward at an angle of 35° at their anterior fourth. Near this point a screw is fastened to the lower arm, which passes up through the upper arm, by means of which the oval ring may be brought in close contact with the lower plate. The lid clamp is introduced in the same manner as Desmarres's clamp and the two end-pieces carefully screwed down. A two-edged scalpel is then passed in perpendicularly through the middle of the lid, close to the upper border of the cross-bar of the ring, and an incision is made, 1·5 to 2 millimetres long, upon the conjunctival side. The wound is then lengthened in both directions by a probe-pointed bistoury, as far as the corner of the slit in the lower plate. The skin bounded by the upper segment of the ring is then removed and the lid clamp left in position until all hæmorrhage has ceased. The clamp is then removed and the detached eyelid is then raised and secured to the skin of the curved incision by three sutures. When the detached lid is thus pushed up it makes a quarter revolution on its long axis, and this tilts the lower free border with the abnormal lashes forward. To obtain the most perfect result possible, the position of the transplanted portion of the lid is of the utmost importance. The bandage may be changed the next morning, the parts thoroughly cleansed with bichloride solution, and the bandage replaced. The sutures may be removed on the third day.

The Visual Disturbances in Tabes Dorsalis; an Attempt at a Comprehensive Explanation of the Symptom-Complex of Tabes.—Berger (*Arch. of Ophthalmology*, xix, 4) has here presented a very interesting paper. He finds that tabes occurring in the earliest and latest periods of life are free from severe complications. Tabes in syphilitic cases generally begins with cerebral symptoms and in non-syphilitic cases with spinal symptoms. Slight drooping of the upper lid increases from the beginning of the tabes up to the paralytic stage. When the lids of a tabetic patient are closed after a few seconds, fibrillar twitching is seen in the orbicular muscle of the lid. There is no marked difference in the relative frequency of inequality of the pupils in the different stages of tabes; it is slightly more frequent in the initial stages. A trace of pupillary reaction to light may be preserved for a long time, and this reaction disappears undoubtedly earlier than the reaction to irritation of the skin. Berger accepts Mauthner's explanation of the immobility of the pupil in tabes—that the fibers for the pupillary light reflex, lying in the wall of the third ventricle, suffer from a chronic ependymitis and a consequent sclerosis. Paralysis of accommodation becomes the more frequent the more advanced is the disease. As a rule, paralyses of the exterior ocular muscles are found disproportionately oftener in cases showing optic atrophy than in cases not thus complicated. Between the cases of optic atrophy with paralyses of the ocular muscles and those without such complications there is no special difference as regards the duration of the affection before blindness ensues. Most of the optic atrophies develop in the preataxic stage; but should such atrophy develop later, blindness will follow the sooner the more advanced is the tabes. No relation exists between the contraction of the visual field, the color-fields, the disturbances of central vision, and of color-perception in tabes. Contraction of the outer portion of the visual field is most frequent, though it may occur in its upper portion. Syphilitic patients show a greater tendency to permanent paralyses of the ocular muscles than non-syphilitic patients, owing to the fact that they are more subject to multiple paralyses. Berger draws the following conclusions: Many of the symptoms of tabes may be explained by a lesion of the nerve nuclei in the fossa rhomboidalis and its continuation into the aqueduct of Sylvius. The difficult closure of the lids may be explained by a slight functional disturbance of the upper nucleus of the facial nerve. The myosis is paralytic, caused by paralysis of the vaso-constrictors in the medulla. The reflex iridoplegia is caused by a lesion of the fibers running in the wall of the third ventricle to the nucleus of the sphincter pupillæ. The diminished intra-ocular tension sometimes found is the result of the lowering of the tone of the vessels. The lacrymation in tabetic patients is a vaso-motor neurosis. The sympathetic nerve is not the cause, but the medium by which certain ocular symptoms of tabes are carried from the central nervous system to the eye. In tabes it may be said in general that the nerve nuclei in the medulla nearest the median line suffer more frequently than those farther outward. An affection of the medulla is indicated by the development of diabetes mellitus in tabes, and in this manner may perhaps be explained the febrile symptoms which are sometimes met with in tabes. It is unnecessary to assume the existence of hæmorrhages in the central fibers and in the nuclei in order to explain the transitory paralyses of the ocular muscles which come on in the beginning of tabes. We know that the antero-lateral tract, which connects the degeneration zones of the medulla with those of the cord, contains vaso-motor fibers, and it has been proved that the lesions of the cord, especially in tabes, correspond in extent to the vascular zones. It may be concluded from the functional disturbances of the optic nerve that vascular changes alone cause the disturbances, and the assumption is admissible that the functional disturbances of the vascular regions of the optic nerve and posterior columns of the cord are caused by a disease of the nerve centers in the fossa rhomboidalis, resulting from an ependymitis of the medulla.

Berger's experimental investigations, in which he cut different parts of the medulla, show that: 1. Nystagmus may develop. 2. Mydriasis as well as myosis may appear. 3. As a result of injury to the medulla, hæmorrhages are found in particular vascular regions of the cord. 4. After injury to the medulla, changes in the retinal vessels may come on.

Laceration of the Internal Rectus.—McAchran (*Amer. Jour. of Ophthal.*, November, 1890) reports a case of this nature in a young man aged twenty. While fencing with a companion he had received a thrust from the button on the end of a foil in the inner canthus of the right eye. He immediately began to see double, but nothing had been done except to keep the eye tied up. Two weeks later he consulted McAchran, who made an opening in the conjunctiva of the globe on the nasal side, and could find no trace of the attachment of the internal rectus. The inferior rectus was partially lacerated and the eye was turned upward as well as outward. The retracted tendon of the internal rectus was found, and with Prince's pulley-stitch was secured to its former place of insertion on the globe, and the divergence was thus corrected. He still saw two objects—one lower than the other. The inferior rectus was not molested in spite of its laceration. The conjunctiva was united by a number of stitches and cold compresses applied. The pulley-stitch was removed on the third day. The inferior rectus was then exercised with prisms daily, and in fourteen days the vertical diplopia had disappeared.

Detachment of the Retina and its Treatment.—Galezowski (*Rec. d'ophthal.*, January, 1890) describes an operation for the treatment of detachment of the retina as follows: 1. The eye being cocainized, he introduces his curved needle, armed with very fine catgut, through the sclerotic at the margin of the ciliary body from before backward as far as possible, so as to reach the limit of the detachment. After having drawn the eyeball up as far as possible, the needle is brought out through the sclerotic on the other side, the catgut is then tied on the surface of the sclerotic, and the ends are cut off short. The eye is then closed with a pressure bandage for two weeks, the dressings being reapplied daily, so as to avoid, as far as possible, all inflammation.

Extraction of a Melanotic Intra-ocular Tumor by an Incision through the Sclerotic; Complete Preservation of Vision.—Rolland (*Rec. d'ophthal.*, January, 1890) here reports an extraordinary result of an operation on the eye. The patient was a man, aged thirty-two, in good health, who had a tumor, the size of a bean and black in color, with nodular surface, situated at the supero-internal angle of the sclerotic. Ten years before, the eye had been struck by the branch of a tree, to which accident the patient attributed the appearance of the growth. The line of attachment of the tumor was about 6 mm. from the limbus. It appeared to grow from the sclerotic and covered the cornea at that region without being adherent to it. Vision was normal. The eye was limited in its excursion inward. After dilatation of the iris, the ophthalmoscope showed a reddish tumor as large as the head of a fly inside the eye, corresponding in position to that of the growth outside. A diagnosis was made of melano-sarcoma, and it was decided to attempt its removal. The external growth was first transfixed by a large silver wire, 20 ctm. long, on a level with the sclerotic, as a means of purchase. The sclerotic was then incised on each side of the tumor in a prolongation of the same meridian, with a Graefe knife, the length of the entire incision being about 8 mm. Then by continuous twisting and torsion of the growth by means of the silver wire and the fingers, and by keeping the lips of the wound in the sclerotic open by means of a silver probe, the intra-ocular portion of the tumor was finally brought out entire through the button-hole in the sclerotic. Considerable vitreous was lost at the same time. Cold boric-acid solution was then applied constantly for five minutes to the eye. The wound in the sclerotic was then closed by a single fine catgut suture, and the conjunctival wound was closed with three silk sutures. Antiseptic dressings were then applied and left undisturbed for five days. On the sixth day the eye was opened and there was no sign of any inflammatory reaction. The wound had closed, the media were clear, and the vision was perfect. Seven months later there was no trace of the operation and vision was still perfect.

The Employment of Aniline Colors as Antiseptics.—Stilling (*Rev. gén. d'ophthal.*, April 30, 1890) has convinced himself that wounds and suppurating ulcers in and about the eye, treated with aniline, may be entirely sterilized by the solution penetrating everywhere, and the suppuration may be entirely arrested. When the pus is deep in the tissues, injections of the aniline solution should be employed, or the introduction of aniline crayons, or bathing with concentrated solutions. In many cases application of a powdered line is very efficacious. He has employed several of the methyl violets and one auramine. These aniline colors are destitute of all toxic action; they are very diffusible, and they do not coagulate albumin. It should not be forgotten that solutions of these aniline colors are soon decomposed by exposure to light, and they should therefore be kept protected.

Microphthalmia with Cysts of the Globe.—Lang (*Royal Lond. Ophth. Hosp. Rep.*, xii, 4) reports an interesting case occurring in a child aged three years. The child was born apparently with no eyeball on the left side, and there was a swelling in the lower lid, which has not altered since, except to increase in size. All the other children of the family were healthy, and there was no defect in the family of either mother or father. Apart from the eye, there was no malformation of any other part of the body of the child. The right eye was normal. On the left side a rounded, fluctuating swelling bulged forward the lower lid, which was somewhat everted. The cyst appeared bluish in color through the freely movable skin of the lower lid; it was as large as a pigeon's egg and appeared fixed far back in the orbit to a very small globe, the cornea of which was directed upward. An incision was made in the skin of the lower lid, about three fourths of an inch from and parallel to the border of the lid; the lid was then divided in the middle by a second incision at right angles to and united with the first incision. The cyst was thus dissected out from beneath the orbicularis and the conjunctiva of the lower lid. Posteriorly the cyst was found to merge into the small globe, which was freed from its surrounding muscles and connections, and the whole mass was removed.

An Examination of the Patellar Tendon Reflex in Sixty-two Cases of Interstitial Keratitis.—Lang and Wood (*Royal Lond. Ophth. Hosp. Rep.*, xii, 4) profess in this paper to show: 1. That in about 30 per cent. of all cases of interstitial keratitis the knee-jerk is decidedly subnormal. 2. That in about 10 per cent. of all cases it is entirely absent—all known causes of subnormal tendon reflexes outside of the constant fact that the local eye disease exists, having been eliminated. 3. It is probable also that in a very small percentage of cases of diminished and absent knee-jerks, the constitutional dyscrasiæ can not be demonstrated. 4. It is rare to find a case of exaggerated patellar tendon reflex in interstitial keratitis when unaccompanied by some of the affections known to produce the former.

The Asthenopia of Neurasthenics.—Collins (*Royal Lond. Ophth. Hosp. Rep.*, xii, 4) thinks that varying degrees of accommodative asthenopia due to cycloparesis are far more common than is generally supposed, more especially among what are called "neurasthenics." In all these cases there is a faulty blood-metabolism and consequent neuromuscular debility, and it would seem that unstriped muscle suffers seriously from such defective hæmatopoiesis; the heart and arterial muscles exhibit lack of tone, the pulse is soft and often irregular, and palpitation is common. The muscular fiber of the intestines suffers and chronic constipation is a frequent concomitant. The ciliary muscle, with or without associated affection of the iris, is similarly weakened, and the amplitude of accommodation is seriously restricted. The treatment of such cases is happily hopeful and uniformly successful. Collins uses a half-grain solution of eserine sulphate, and insists on entire abstinence from all close work. When the general health begins to improve, he allows reading or work for a definitely limited period daily with progressively weaker convex glasses, and later he stimulates the ciliary muscle by the gymnastic exercise of overcoming progressively increasing concave glasses.

The Division of Anterior Synechiæ.—Lang (*Royal Lond. Ophth. Hosp. Rep.*, xii, 4) thinks that, for operative purposes, it is well to divide anterior synechiæ into three groups: 1. Where the adhesion has been small and has stretched, allowing the iris to return to its normal plane. 2. Where a large piece of iris is adherent to or entangled in the cornea, but does not involve the whole width of the iris, so that an instrument can be passed between iris and cornea at the periphery of the anterior chamber. 3. Where the adhesion is very extensive (adherent leucoma), or where it extends to the periphery of the anterior chamber. The method of treatment varies for each group. In the first group a Knapp's discission-knife answers perfectly well for the division of the small thread, the lens being in no danger, as the aqueous can only escape on withdrawing the knife. In the second group an iridectomy is usually performed, or the case is left without treatment. Lang advises the following operation in this class of cases: Making an incision in the cornea with a sharp-pointed knife as far as possible from the point of adhesion, and then passing a blunt-pointed knife between iris and lens and incising the synechia by a sawing motion.

The Pathogenesis of Divergent and Convergent Squint.—Hausen-Grut (*Kl. Mon. f. Augenheilk.*, April, 1890) gives the following reasons for his objection to the usual operation proposed as a remedy for these defects, known as the anatomical shortening of the muscle: 1. It has not been demonstrated anatomically. 2. It is not in accordance with the fundamental laws of squint. 3. It is not in accordance with the temporary occasional disappearance of the squint (during narcosis or anæsthesia, for instance). He believes that squint depends on involuntary muscle innervation.

Resection of the Optic Nerve.—Scheffels (*Kl. Mon. f. Augenheilk.*, June, 1890) gives a practical *résumé* of the above subject, as follows: 1. In all cases where the patient suffers only in the blind eye, or where, in addition, there is a sympathetic irritation (neurosis) of the other sound eye, without the danger of the appearance of a real sympathetic inflammation, the resection of the optic nerve should take the place of enucleation. 2. In all cases in which a sympathetic ophthalmia is to be feared, including cases of foreign body in the globe, the prophylactic resection should be carried out, first, in place of enucleation, and, secondly, in order to settle definitely the question as to the course followed in sympathetic inflammation. Should sympathetic inflammation appear in spite of such resection, the fact should be immediately published to the world. On the contrary, in all cases in which a sympathetic ophthalmia is to be feared, where there has been a loss of continuity in the membranes of the eye, a sufficient resection must be done, and, if this is not practicable, the enucleation must be done at once.

Disturbances of Vision due to Malarial Infection.—Sulzer (*Kl. Mon. f. Augenheilk.*, July, 1890) finds the following eye diseases caused by malarial cachexia: 1. Chronic optic neuritis, sometimes in severe cases accompanied by melanosis of the papilla. 2. Diffuse infiltration of the vitreous. 3. Numerous small hæmorrhages at the periphery of the retina. 4. Sudden incurable blindness, probably in consequence of central hæmorrhages or emboli.

The ocular lesions which are sometimes met with in acute attacks of malarial fever are as follows: 1. Periodic amblyopia of varying degree without ophthalmoscopic symptoms in severe febrile attacks, sometimes in the form of complete blindness for several days, which is entirely recovered from on the administration of quinine. 2. Marked venous hyperæmia of the papilla and retina, with loss of the retinal brilliancy and predisposition to lesions of the macula. 3. Large hæmorrhages in the vicinity of the papilla and in the macula lutea. The subjective symptoms of these lesions of the macula—such as positive central scotoma, diminution of the vision, and sometimes blindness—are at first often progressive, but subsequently improve with the improvement of the general disease.

Subconjunctival Lipoma of the Right Eye.—Querenghi (*Archives d'ophthalmologie*, January–February, 1890) gives an account of the microscopical examination of a tumor of this nature removed from a man aged fifty-nine. The fat-cells were connected with each other and with the walls of the vessels by means of nuclear filaments. These filaments were formed of very five granulations, contained in a canal formed by the surrounding protoplasm. The fat, whether it comes out of the vessels already formed or, what is more probable, elaborated by the nuclei and granulations, is deposited in very small drops in these canals. These little drops, increasing in number and in size by coalescence, form a drop, which grows larger by degrees and dilates the canal like a ball. The neighboring nuclear filaments are pushed aside by the progressive growth of the fat-cavity, and spread out like rays around the walls of the cavity; and the nucleus, at first spherical or ovoid, becomes compressed by the fat-ball into the shape of a bowl. A fat-cell may contain several fatty cavities, according to the number of filaments involved in the process.

Ocular Complications of la Grippe.—Badal and Fage (*Archives d'ophthalmologie*, March–April, 1890) draw the following conclusions: 1. The ocular complications of *la grippe* are very frequent and various. 2. They appear in all cases, benign and serious, without there being direct relation between the severity of the *grippe* and that of the ocular complication. 3. They may appear in the acute stage, or even in the period of convalescence. 4. They may occur in any patient, no matter what the age may be. 5. Any peculiar temperament or diathesis, or any predisposing cause, may produce an explosion on the side of the eye. 6. In most cases there is an infectious agent—such as acute blepharitis, dacryocystitis, catarrhal conjunctivitis, phlyctænular keratitis, or conjunctivitis, etc. The infection has been explained by Jaccoud by the supposition that the numerous microbes of the conjunctiva, inoffensive in a state of health, become noxious when the organism has deteriorated in vitality and in its powers of resistance.

The Local Anæsthetic Action of Strophanthine and Onabaine.—Panas (*Archives d'ophthalmologie*, March–April, 1890) draws the following conclusions from his clinical observations: 1. Onabaine acts as an anæsthetic in the rabbit's conjunctiva, but has apparently no such effect in the human eye. 2. Strophanthine, though superior to onabaine in anæsthetic properties, is so irritating in its effects on the human eye that it can not take the place of cocaine.

Affections of Vision in Miasmatic Poisoning.—Sulzer (*Archives d'ophthalmologie*, May–June, 1890) divides the ocular complications of miasmatic poisoning into two classes. In the *first* class he places: 1. Chronic optic neuritis with melanosis of the optic papilla in severe cases. 2. Diffuse infiltration of the vitreous humor. 3. Punctate multiple peripheral hæmorrhages of the retina. 4. Sudden and lasting amaurosis. In the *second* class he places: 1. Periodic amaurosis and amblyopia without ocular lesions. 2. Diffuse lesions of the fundus, mainly in the vicinity of the macula lutea. 3. Large retinal hæmorrhages around the papilla and at the macula.

Neuropathic Strabismus.—Valude (*Archives d'ophthalmologie*, July–August, 1890) gives the following *résumé* of the subject: 1. True, concomitant strabismus is not due to ametropia alone, and Donders's rule can not be applied to all cases. There is a neuropathic factor, which must be carefully recognized. 2. There are many simple cases of ametropic strabismus where the ametropia is the only cause. There are also cases of pure neuropathic strabismus, with no error of refraction. There is a third class of cases in which the neuropathic element and the ametropic state unite in causing the squint. The ametropic strabismus may be cured by operation and by optical correction, or by the latter alone. The strabismus due to an ametropic and a neuropathic cause requires internal medication as well as operative and optical correction. 4. In those cases in which operative and optical measures fail to correct the squint there exists a neuropathic element which has not been recognized in the treatment of the cases.

Sympathetic Ophthalmia.—Meyer (*Rev. gén. d'ophthalmologie*, Nov. 31, 1890) draws the following conclusions from his observations: Sympathetic ophthalmia of one eye results exclusively from injury to its fellow, with or without the penetration of a foreign body. The infectious nature of the wound seems to play an important *rôle*. The experiments of Deutschmann and Gayet are not proofs that the transmission of the trouble in man is through the medium of the optic nerves, but they show the anatomical possibility of this method of transmission. The result of the autopsy in Becker's case proves anatomically the occurrence of sympathetic ophthalmia in man without alteration of the optic nerves. The possibility of transmission in man through the medium of the ciliary nerves or by other means must be maintained. The enucleation of the eye originally wounded, in which the visual function can not be preserved, is the surest means of preventing sympathetic ophthalmia. Optico-ciliary neurotomy is doubtless useful in eyes whose vision has been lost by idiopathic iridochorioiditis or by absolute glaucoma. It is not a protection against sympathetic ophthalmia. The resection of the optic nerve can not be regarded as a protection against sympathetic ophthalmia until it has been done on a very extensive scale, on a very large number of cases, and with the desired result.

The Validity of Weber's Law for the Light-sense.—Schirmer (*Archiv für Ophthalmologie*, xxxvi, 4) draws the following conclusions as the results of his investigations: 1. Weber's law of the equally sensitive differences is valid for the light-sense within a zone of illumination or brightness of 1 to 1,000 mk., if it is possible for the eye to develop the entire force of its combined powers of adaptation. Hence the validity of the law is dependent upon certain physiological conditions. 2. The validity of Weber's law can only be explained by physiological processes. It is not, however, possible by these investigations to absolutely exclude the participation of a psychophysical process. 3. Adaptation in the normal eye can not always keep pace with the diminution of the daylight at dusk.

Experimental Studies on the Method of Nutrition of the Lens and on the Formation of Cataract.—Magnus (*Archiv für Ophthalmologie*, xxxvi, 4) offers the following conclusions as to the genesis of lens opacities: 1. In order to understand the origin of most cataracts we must thoroughly understand the processes of nutrition in the healthy lens, for most cataracts must be regarded as the result of a disturbance in the normal processes of nutrition of the lens. These disturbances may manifest themselves in two ways—viz.: 2. As circulatory disturbances of the nutritive fluid moving in the lens, or, 3. As changes in the chemical constitution of the nutritive fluid of the lens.

Advancement of the Tendon of the Levator Palpebræ; a New Operation for Entropion and Trichiasis.—Pagenstecher and Scheffels (*Archiv für Ophthalmologie*, xxxvi, 4) give a detailed and not very clear description of a method of operating devised by the former mainly for the relief of entropion and trichiasis. It resembles in some of its features the operation devised by Hotz about ten years ago, but differs from the latter as follows: 1. There is no loss or removal of any portion of the tissues of the lid, but rather a strict preservation of the entire skin and muscular tissue. 2. A firm cicatricial union is formed between the fibers of the orbicularis on the one hand, and the upper border of the tarsus with its fascia and the tendon of the levator palpebræ on the other hand, with simultaneous advancement of this tendon and a change in the direction of its line of attachment.

The Introduction of an Artificial Vitreous Humor into the Scleral Cavity.—Morgan (*Archives of Ophthalmology*, xx, 1) reports six cases of Mules's operation, done under ether anæsthesia. The opening was enlarged horizontally by removing two triangular pieces of the conjunctiva and sclera, with their bases toward each other, thus changing a nearly circular opening into one shaped like a diamond. The hæmorrhage continued about an hour and a half, and the "artificial vitreous humor" was not introduced until it had completely ceased. A solution of corrosive sublimate (1 to 5,000) was used as an antiseptic in the first case; a hot saturated solution of boric acid in the second, third, and fourth cases; and hot water in the fifth and sixth cases. Some experienced no pain, and others very little. The wound was closed in all but the first case with six sutures of fine silk, one conjunctival on either side, and four through conjunctiva and sclerotic in the center. Some of the patients wore their artificial eyes from one to two weeks without removal, and experienced no discomfort.

Intracranial Neoplasm with Localizing Eye Symptoms.—Oliver (*Archives of Ophthalmology*, xx, 1) reports the case of a man, aged thirty-nine, who for two years had suffered with vertigo, headaches, and attacks of momentary blindness. In April, 1889, his right foot felt stiff, numb, and weak, and he repeatedly stumped the toes of this foot against objects. In August the right arm was adducted to the trunk, the forearm became flexed upon the arm, the hand upon the forearm, while the fingers remained extended. These seizures lasted for the fraction of a minute and then disappeared. These attacks became more frequent until they occurred every few minutes, and during the attacks the right leg became extended. The grip of the right hand was weak, and the right patellar tendon reflex was much exaggerated. The temperature sense, the pressure sense, and the muscular sense were all markedly diminished on the right side. Right lateral hemianopsia was present without any other gross ocular lesion. On February 26, 1890, the patient complained of headache, with marked diminution of sight in the remaining half of the field of vision. Vision was reduced to one eighth. The direct vision for color was slightly lowered, especially on the left side. The conditions of the visual field pointed toward a disturbance of the visual apparatus in the left cerebrum. Feebly negative scotomata marked throughout the remaining green color-areas, more pronounced in that of the left eye. Wernicke's hemiopic pupillary reaction sign was plainly manifest on both sides, most marked on the left; this showed some disturbance in the sensory-motor arc of the ocular apparatus at the base of the brain in the left optic tract, anterior to the corpora quadrigemina and posterior to the optic commissure. All the conditions pointed toward a gross left-sided intracranial lesion situated in such a position as to cause the greatest pressure upon the left optic tract between the corpora quadrigemina and the optic chiasm, a few of the contiguous crossing fibers of the right side being also irritated and somewhat pressed upon; while the right-sided hemianæsthesia and the general symptoms on that side distinctly placed the greatest force of the lesion in the region of the left pulvinar. At the autopsy the left hemisphere was distinctly bulging. On horizontal section, the left lateral ventricle was found to be shallower than the right. The left optic thalamus was distinctly indurated and resistant to the touch. Perpendicular section of the hardened mass revealed a neoplasm invading the external portion of the left optic thalamus, as well as the corpus striatum. The growth was pinkish-yellow in color. The capsule was not invaded. The left optic tract as far as the chiasm was markedly flattened. The tumor proved to be a glioma with sarcomatous degeneration.

Bilateral Hemianopsia.—Schweigger (*Archives of Ophthalmology*, xx, 1) reports the case of a man, aged seventy-five, in whom a hemianopsic defect appeared suddenly in both left halves of the visual fields, without the occurrence of any other disturbance. The central vision remained unchanged and the ophthalmoscopic appearances were normal. One year later the right halves of the visual fields failed suddenly. A careful examination showed that at a distance of three or four metres the patient could just recognize the dial of a clock on the wall and distinguish the figures on it. Corresponding to the size of the dial and figures, there remained a visual field of 0° 22′ at the most, in which his former acuteness of central vision was preserved. Movements of the hand could also be perceived eccentrically.

The Pathological Anatomy of Panophthalmitis.—Schöbl (*Archives of Ophthalmology*, xx, 1) from his observations draws the following conclusions: In taking a general oversight of the entire panophthalmitic process, we find that, whether the disease be of traumatic, secondary, or metastatic origin, it commences constantly as a fulminating, purulent retinitis or chorioiditis, or with both together. To this is soon added a scleritis and an inflammation of the capsule of Tenon, and, if the cornea has not previously been destroyed, a keratitis inducta interstitialis follows, which may assume a suppurative character later. Following this come the so-called "carnificating" and hyperplastic inflammations of the various parts of the globe, particularly of the uvea. Generally the "carnificating" processes precede the hyperplastic, so that the original purulent masses are gradually replaced by granulation tissue, from which later young connective tissue develops, filling at last the whole interior of the globe. Finally the new-formed connective-tissue masses may undergo a cicatricial shrinking, and retrograde metamorphoses take place.

Insufficiency of the Oblique Muscles.—Savage (*Archives of Ophthalmology*, xx, 1) here considers a rather hopeless ocular defect. The function of the oblique muscles is to keep the naturally vertical meridians of the two corneæ parallel even when not vertical, in order to avoid a very annoying form of diplopia. If there is perfect equilibrium of the oblique muscles, this parallelism of the meridians named is easily maintained; but if the superior oblique of either eye is too strong for its inferior, or *vice versa*, the parallelism of the vertical meridians is preserved and double vision is prevented only by excessive work on the part of the weaker muscle. This condition of the oblique muscles brings on, at longer or shorter intervals, a train of nervous symptoms for which there seems to be little or no hope of either prevention or cure.

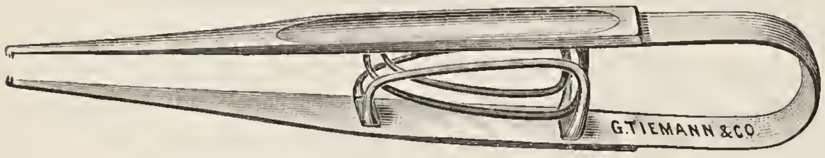
New Inventions, etc.

A NEW THUMB FORCEPS.*

By W. W. Van Arsdale, M. D.,

LECTURER IN SURGERY, NEW YORK POLYCLINIC;
ATTENDING SURGEON, EASTERN DISPENSARY.

With the general introduction of the antiseptic system a modification of many of our surgical instruments has become necessary. Not only are our instruments now made in such a manner that they can be readily cleansed, but all grooves and irregularities formerly employed for the purpose of permitting a more secure grasp of the instrument by the surgeon are now omitted. The thumb forceps was formerly manufactured with a number of transverse ridges on the portions coming into contact with the finger and thumb of the operator; but at present these roughened surfaces are more frequently replaced by smooth oval depressions, for the finger-tips to rest in. Notwithstanding this substitution, the firm grasp of the thumb forceps by the surgeon is greatly interfered with when the instrument is smooth, and particularly when it becomes moistened with solutions and blood during operations, so that the surgeon is compelled to use greater force when seizing the tissues with the instrument, and, consequently, more quickly becomes fatigued.



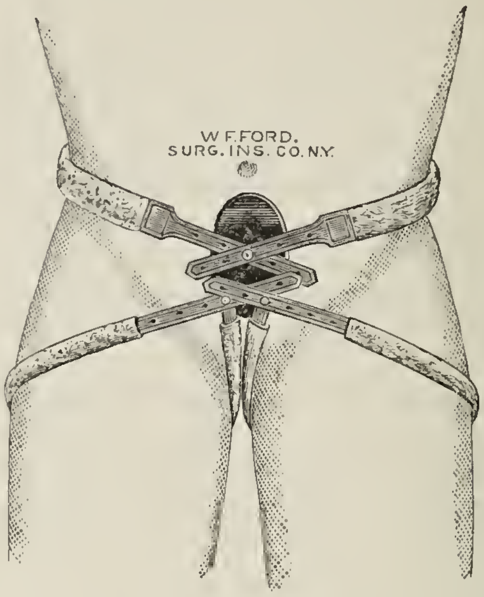
To obviate these disadvantages of the thumb forceps as made at present, I have designed the forceps illustrated in the accompanying cut, somewhat resembling sugar-tongs in shape. The instrument being wedge-shaped, *with the broad end of the wedge farthest removed from the tissue grasped*, will not readily lose its hold as long as traction is kept up; on the contrary, the harder one pulls, the tighter becomes its grasp, and that without additional pressure with the fingers.

The instrument is no heavier in weight than an ordinary forceps of the same length. It is easily cleansed, and may be variously fashioned at the points, or mouse-toothed.

I have now used this forceps for two years, and have come to prefer it to the other aseptic thumb forceps in the market.

A TRUSS TO BE WORN AFTER LAPAROTOMY.

The apparatus presented herewith is intended to be worn after the operation of laparotomy for the purpose of sustaining and strengthening the abdominal cicatrix, and preventing the resulting ventral hernia which is apt to follow that operation. It consists of an oval hard-rubber disc, five inches and a half by two and seven eighths, held in place by an elastic band passing around the body, and bands which encircle each thigh. These bands are fastened to brass pivots which are attached to the front surface of the pad, and admit of any motion of the body without displacement of the pad; the band passing around the body being made of elastic material. The pad is concave on its inner surface and closely approximates the contour of the abdomen.



The beneficial effects obtained from the use of this pad after several cases of laparotomy seem to warrant its presentation to the profession. It is made by the W. F. Ford Surgical Instrument Company, 315 Fifth Avenue, New York.

Miscellany.

The New New York Medical Bill.—The following is the text of a bill, No. 991, introduced into the Assembly by Mr. Green on the 13th inst., read once, and referred to the committee on general laws:

An Act to amend an act entitled "An act to establish boards of medical examiners of the State of New York for the examination and licensing of practitioners of medicine and surgery, and to further regulate the practice of medicine and surgery."

The People of the State of New York, represented in Senate and Assembly, do enact as follows:

Section 1. From and after the first day of September, eighteen hundred and ninety-two, there shall be and continue to be *a board of medical examiners* for the State of New York, to *consist of fourteen members, each of whom shall have received the degree of M. D. in course from a legally incorporated medical college authorized to confer such degree, and shall have practiced medicine or surgery under the laws of this State for not less than ten years. The Board of Regents of the University of the State of New York shall appoint said medical examiners from a list of nominees to be jointly submitted by the faculties of Cornell University, Columbia College, Union University, the University of the City of New York, the University of Syracuse, the University of Rochester, Niagara University, and Colgate University, or such of them as shall join in such nomination. The faculties of each of the said universities shall be invited by the Board of Regents of the University of the State of New York to appoint from their own number a delegate to attend a conference for the purpose of making such nominations, at such time and place as the said regents may designate.* The number of nominees thus submitted shall be not less than twice the number of examiners to be appointed, *and shall comprise, in equal numbers, persons specially selected for their respective competence as examiners in the subjects hereinafter named, and the subject for which each nominee is recommended shall be stated in the list of nominations* The said board of regents may remove any examiner *for neglect of the duties required by this act, or for malfeasance of any kind, and shall fill any vacancy caused by removal, death, or resignation, by the appointment from a list of nominees to be submitted by the remaining examiners, of an examiner for the unexpired term in the vacant subject. There shall be two examiners in each subject who shall serve for the term of four years, with the exception of those first appointed, of*

---

* Presented at the Surgical Section, New York Academy of Medicine, March 9, 1891.

whom one shall serve for two years, and the other for four years, and the said board of regents shall in their first appointment designate the number of years for which each examiner shall serve. The appointment of successors to those examiners whose terms of office will expire on the first day of September *in each second year*, shall be made by the said board of regents during or before the month of July preceding such expiration of terms of office, *either upon the same conditions as hereinbefore specified for the first appointments, or upon nominations to be made by the remaining examiners, as the said board of regents may deem expedient.*

Sec. 2. Said board shall be known by the name and style of the Board of Medical Examiners of the State of New York. Every person who shall be appointed to serve on said board shall receive a certificate of appointment from the regents of the University of the State of New York, and within thirty days after receiving such certificate shall take, subscribe, and file in the office of the Secretary of State the oath prescribed by the twelfth article of the constitution of this State. Said board shall be authorized to take testimony concerning all matters within its jurisdiction, *to inspect the methods of instruction and examination in medical colleges in this State*, and through its presiding officer for the time being to issue subpœnas and administer oaths to witnesses. Subject to the approval of said regents, the said board shall make and adopt all necessary rules and regulations not inconsistent with the Constitution and laws of the United States or of this State, whereby to perform the duties and transact the business required under the provisions of this act.

Sec. 3. The first meeting of the said board of medical examiners shall be held pursuant to a call issued by the secretary of the said board of regents specifying the time and place of meeting, within two months from the first day of September, eighteen hundred and ninety-two. At such first meeting of the said board an organization shall be effected by the election, from its own membership, of a president and secretary. For the purpose of examining applicants for license, the said board of medical examiners shall hold one or more stated or special meetings in each year pursuant to a call of the said board of regents, specifying the time and place of meeting, due notice of which shall be made public. Each examination shall be *under the supervision of an inspector* appointed by the said board of regents, who shall not be a member of the board of medical examiners, *and may be attended by a representative of any medical college from which any applicant is graduated.*

Sec. 4. *Examinations for the license to practice medicine and surgery shall be conducted both by writing and orally, and shall include practical tests in subjects to which these are applicable. The subjects for examination shall be :* (1) *Anatomy ;* (2) *physiology, including medical chemistry ;* (3) *pathology, general and special, with diagnosis ;* (4) *surgery, including surgical anatomy and clinical surgery ;* (5) *obstetrics, including diseases of women and infants ;* (6) *hygiene, personal and public ;* (7) *toxicology or pharmacology, omitting any reference to methods of practice or therapeutic doctrines. Any medical college which fails to give adequate instruction in all the above-named subjects shall be excluded by the said board of regents from recognition as qualifying its graduates for their license.*

Sec. 5. From and after the first day of September, eighteen hundred and ninety-two, every applicant for a license to practice medicine or surgery in this State shall be required to produce to the said regents of the university satisfactory evidence of being more than twenty-one years of age, of being of good moral character, of having obtained at least a common-school education prior to beginning the study of medicine, of having attended not less than three courses of instruction in different years, *including sufficient opportunities for practical and clinical study* in a legally incorporated medical college or colleges, and of having received either the degree of M. D. in course from some legally incorporated medical college in the United States *recognized by the said regents* or a diploma or license conferring the full right to practice all the branches of medicine and surgery in some foreign country. Upon the production of such evidence and payment by the applicant of *thirty-five* dollars into the treasury of the University of the State of New York, the said regents shall issue to such applicant an order for examination by said board of medical examiners. In case of failure in the first examination so ordered, the applicant shall have the privilege of a second examination in the subject or subjects wherein failure has occurred by said board of medical examiners, after the expiration of six months and within one year, without the payment of an additional fee. And it is further provided that practitioners of medicine and surgery examined and licensed by a State medical examining board of another State, on payment of ten dollars into the treasury of the University of the State of New York and filing in the office of said regents a copy of said license certified by the president and secretary of such examining board, showing also that the standard of requirements adopted by such State examining board is equivalent to the provisions of section four of this act, may receive from said regents a license conferring the right to practice medicine and surgery in this State.

Sec. 6. After each examination ordered by the said board of regents, the said board of medical examiners shall, without unnecessary delay, transmit to said board of regents an official report stating the examination average of each applicant in each branch, the general average, and the result of the examination, whether successful or unsuccessful. Said report shall embrace all the examination papers, *questions and answers thereto, and the results of practical and clinical tests.* All the examination papers and reports so returned, *omitting the names of unsuccessful candidates*, shall be kept for reference among the public records of the university.

Sec. 7. On receiving from said board of medical examiners such official report of the examination of any applicant for license, the said regents shall issue to such applicant, if reported as having successfully passed such examination and, in their judgment, duly qualified therefor, a license to practice medicine and surgery in the State of New York. Every such license shall be subscribed by the chancellor and secretary of the University of the State of New York and by the medical examiners who have participated in said examination. It shall also have affixed to it by the person authorized to affix the same the seal of said university. Every such license shall be substantially in the following form :

" The Regents of the University of the State of New York to all whom it may concern, greeting :

" Be it known that............, having offered to us satisfactory proof that.....was more than twenty-one years of age, of good moral character, and had received proper preliminary education, that.....had attended three sufficient courses of medical instruction in a legally incorporated medical school or schools, in the years... ...., and had received from the.............of.............the diploma of ....; we, therefore, gave order for the examination of the said...........by the Board of Medical Examiners of the State of New York; that the said....... ....was fully examined by said board and found proficient and qualified to practice medicine, surgery, and obstetrics by the examiners, whose names are hereunto attached. We, therefore, have granted to the said... ....this our license to practice medicine, surgery, and obstetrics in the State of New York, and have caused the names of the chancellor and secretary of our board of regents and of said examiners to be subscribed, and the seal of the university to be affixed hereto, and have caused this license to be recorded in book......of medical licenses, on page......

" Dated...........18..."

Before such license shall be issued, it shall be recorded in a book kept in the office of said regents, and the number of the book and of the page therein shall be noted in the body of the license. Such records shall be open to public inspection under proper restrictions as to their safekeeping, and in all legal proceedings shall have the same weight as evidence which is given to the record of the conveyance of land. *The said regents shall have power to revoke any such license on evidence satisfactory to them of infamous conduct or malpractice on the part of the person to whom it was issued. Such license, unless so revoked, shall confer authority to practice medicine, surgery, or obstetrics throughout the State of New York.*

Sec. 8. From the income provided in this act, the said regents may pay the necessary expenses incurred by its provisions, and whatever surplus above such expenses shall remain at the end of any year shall be apportioned by said regents among said medical examiners, *pro rata*, according to the number of applicants examined by each.

Sec. 9. From and after the first day of September, eighteen hundred and ninety-two, no person not theretofore a legally authorized practitioner of medicine and surgery under the laws of this State then in force shall practice medicine and surgery in this State unless such person shall have received from the said Regents of the University, after examination and approval, as herein provided, license to practice as a physician and surgeon, or unless such person shall hold a license from a State examining and licensing board of another State and shall have been licensed by the said board of regents as provided in this act.

Sec. 10. Nothing in this act shall be construed to interfere with or punish commissioned medical officers serving in the army or navy of the United States or in the United States Marine-Hospital Service, while so commissioned, or any person while actually serving as a member of the medical staff of a legally incorporated hospital, or any legally qualified physicians or surgeons from other States meeting regular physicians or surgeons of this State in consultation, or any legally qualified physician and surgeon residing on the border of this State in an adjoining State and duly authorized under the laws thereof to practice medicine and surgery therein, whose practice extends into the limits of this State *for a distance not exceeding ten miles*, provided that such practitioner shall not open an office nor appoint a place to meet patients or receive calls within the limits of this State, unless after having received a license from the said board of regents as hereinbefore provided; nor shall it prevent manufacturers of artificial eyes, limbs, or trusses fitting such appliances on persons in need thereof.

Sec. 11. All acts or parts of acts inconsistent with the provisions of this act are hereby repealed.

Sec. 12. This act shall take effect immediately.

Mortality in Cities in the United States.—The following table represents the mortality in the cities named, as reported to Dr. John B. Hamilton, Surgeon-General of the Marine-Hospital Service, and published in the Abstract of Sanitary Reports for March 20th:

CITIES.	Week ending—	Population, U. S. Census of 1890.	Total deaths from all causes.	DEATHS FROM—										
				Phthisis pulmonalis.	Yellow fever.	Small-pox.	Varioloid.	Varicella.	Typhus fever.	Enteric fever.	Scarlet fever.	Diphtheria.	Measles.	Whooping-cough.
New York, N. Y.	Mar. 14.	1,513,501	813	119	..	..	..	..	..	6	25	31	15	5
Chicago, Ill.	Mar. 14.	1,099,133	709	51	..	..	..	..	..	13	19	26	8	11
Philadelphia, Pa.	Mar. 7.	1,046,964	378	52	..	..	..	..	..	9	6	10	1	2
Brooklyn, N. Y.	Mar. 14.	806,343	378	40	..	..	..	..	..	2	19	16	12	9
Boston, Mass.	Mar. 14.	448,477	193	27	..	..	..	..	..	2	..	2	..	....
Baltimore, Md.	Mar. 14.	434,439	184	19	..	..	..	..	..	2	..	3	..	....
San Francisco, Cal.	Mar. 7.	298.997	125	19	..	..	..	..	..	..	..	9	..	....
Cincinnati, Ohio.	Mar. 13.	296,908	138	17	..	..	..	..	..	2	1	4	..	...
Cleveland, Ohio.	Feb. 21.	261,546	91	5	..	..	..	..	..	5	1	4	..	....
Cleveland, Ohio.	Feb. 28.	261,546	96	11	..	..	..	..	..	4	1	4	1	....
Cleveland, Ohio.	Mar. 7.	261.546	98	16	..	..	..	..	..	3	2	2	1	1
Washington, D. C.	Mar. 7.	230,392	128	19	..	..	..	..	..	1	1	1	6	1
Detroit, Mich.	Mar. 14.	205,669	90	....	..	..	..	..	..	..	..	6	..	....
Minneapolis, Minn.	Mar. 14.	164,738	55	....	..	..	..	..	..	2	..	1	1	1
Rochester, N. Y.	Mar. 14.	138,327	55	....	..	..	..	..	..	1	..	1	..	....
Kansas City, Mo.	Mar. 7.	132,416	33	8	..	..	..	..	..	..	1	..	..	....
Providence, R. I.	Mar. 14.	132,043	48	....	..	..	..	..	..	2	2	2	..	....
Indianapolis, Ind.	Mar. 13.	107,445	41	2	..	..	..	..	..	2	2	4	1	1
Toledo, Ohio.	Mar. 13.	82,652	37	....	..	..	..	..	..	1	..	1	..	....
Richmond, Va.	Mar. 14.	80,838	48	8	..	..	..	..	..	1	..	1	..	....
Nashville, Tenn.	Mar. 14.	76,369	38	....	..	..	..	..	..	1	..	..	2	....
Fall River, Mass.	Mar. 14.	74,398	33	4	..	..	..	..	..	..	..	1	..	....
Lynn, Mass.	Mar. 14.	....	18	....	..	..	..	..	..	..	..	..	..	....
Charleston, S. C.	Mar. 7.	54,592	25	6	..	..	..	..	..	..	..	..	1	....
Mobile, Ala.	Mar. 14.	....	16	2	..	..	..	..	..	..	..	..	..	....
Portland, Me.	Mar. 14.	36.608	10	....	..	..	..	..	..	..	..	..	..	....
Binghamton, N. Y.	Mar. 14.	35,093	11	2	..	..	..	..	..	..	..	..	2	....
Yonkers, N. Y.	Mar. 6.	31,945	12	2	..	..	..	..	..	..	..	..	..	....
Yonkers, N. Y.	Mar. 13.	31,945	19	2	..	..	..	..	..	1	..	2	..	....
Galveston, Texas.	Mar. 13.	29,118	6	....	..	..	..	..	..	1	..	..	..	....
Auburn, N. Y.	Mar. 14.	25,887	8	3	..	..	..	..	..	..	..	..	..	....
Newton, Mass.	Mar. 7.	24,357	8	1	..	..	..	..	..	1	..	..	..	....
Newton, Mass.	Mar. 14.	24,357	5	...	..	..	..	..	..	..	..	..	..	....
San Diego, Cal.	Feb. 28.	16,153	5	....	..	..	..	..	..	..	..	..	..	....
San Diego, Cal.	Mar. 7.	16,153	4	....	..	..	..	..	..	..	..	..	..	....
Rock Island, Ill.	Mar. 8.	13,596	2	....	..	..	..	..	..	..	..	..	..	....
Rock Island, Ill.	Mar. 15.	13,596	5	....	..	..	..	..	..	..	..	..	..	....
Pensacola, Fla.	Mar. 7.	11,751	3	1	..	..	..	..	..	..	..	..	..	....

Vaccination as a Preventive of Influenza.—"Dr. Goldschmidt, of Madeira, hopes to conquer influenza by means of animal lymph, as re-vaccination against small-pox seems to confer almost perfect immunity from influenza. In consequence of the neglect of vaccination, small-pox prevails frequently in Madeira, and not long ago it carried off more than 1,000 victims. The doctor went in for re-vaccination, and now finds that not one patient out of 112 successful cases suffered from influenza, and out of 98 unsuccessfully vaccinated, only 15 persons were seized by the influenza, and these in each case but very slightly. Recently vaccinated infants did not catch the influenza. It therefore appears to follow that re-vaccination gives effective protection not only against small-pox, but also against influenza."—*British and Colonial Druggist.*

Creolin in Erysipelas and Eczema.—"Dr. Rothe has used in the treatment of erysipelas a creolin ointment containing—

Creolin	$1\frac{1}{2}$ parts;
Creta præp., axung. porc.	āā 15 "
Ol. menth. pip.	gtt. 5

This is spread in the thickness of the blade of a knife over the diseased parts twice or three times a day, a thin layer of cotton-wool being applied as a covering. In from twelve to twenty-four hours improvement was always apparent, and the disease was cured in three or four days. The same ointment also did good service in a case of weeping eczema of the face, as also in several cases of eczema in children. A patient suffering from scabies was treated with a thorough washing with soft soap and inunction of this ointment, with such a decided effect that Dr. Rothe considers creolin to be undoubtedly a specific for the disease."—*British and Colonial Druggist.*

To Contributors and Correspondents.—*The attention of all who purpose favoring us with communications is respectfully called to the following:*

Authors of articles intended for publication under the head of "original contributions" are respectfully informed that, in accepting such articles, we always do so with the understanding that the following conditions are to be observed: (1) when a manuscript is sent to this journal, a similar manuscript or any abstract thereof must not be or have been sent to any other periodical, unless we are specially notified of the fact at the time the article is sent to us; (2) accepted articles are subject to the customary rules of editorial revision, and will be published as promptly as our other engagements will admit of—we can not engage to publish an article in any specified issue; (3) any conditions which an author wishes complied with must be distinctly stated in a communication accompanying the manuscript, and no new conditions can be considered after the manuscript has been put into the type-setters' hands. We are often constrained to decline articles which, although they may be creditable to their authors, are not suitable for publication in this journal, either because they are too long, or are loaded with tabular matter or prolix histories of cases, or deal with subjects of little interest to the medical profession at large. We can not enter into any correspondence concerning our reasons for declining an article.

All letters, whether intended for publication or not, must contain the writer's name and address, not necessarily for publication. No attention will be paid to anonymous communications. Hereafter, correspondents asking for information that we are capable of giving, and that can properly be given in this journal, will be answered by number, a private communication being previously sent to each correspondent informing him under what number the answer to his note is to be looked for. All communications not intended for publication under the author's name are treated as strictly confidential. We can not give advice to laymen as to particular cases or recommend individual practitioners.

Secretaries of medical societies will confer a favor by keeping us informed of the dates of their societies' regular meetings. Brief notifications of matters that are expected to come up at particular meetings will be inserted when they are received in time.

Newspapers and other publications containing matter which the person sending them desires to bring to our notice should be marked. Members of the profession who send us information of matters of interest to our readers will be considered as doing them and us a favor, and, if the space at our command admits of it, we shall take pleasure in inserting the substance of such communications.

All communications intended for the editor should be addressed to him in care of the publishers.

All communications relating to the business of the journal should be addressed to the publishers.

THE NEW YORK MEDICAL JOURNAL, April 4, 1891.

Lectures and Addresses.

WANDERING KIDNEY.

NEPHRORRHAPHY.

ABSTRACT OF A LECTURE DELIVERED AT
THE NEW YORK POST-GRADUATE MEDICAL SCHOOL.

By ROBERT T. MORRIS, M. D.

Gentlemen: The elfin prods which excited the viscera of this patient were administered by a smooth round kidney swinging at long anchorage. It is hard to understand how so soft a weapon can wield such effective blows unless we consider the effect of persistently applied gentle thumps upon an eye. Patients have suffered from such kidneys ever since civilized vertebrates first dubbed themselves creatures of special creation, and yet it is only recently that physicians have traced the symptoms in concatenation to the cause.

A word as to nomenclature. We hear a good deal about floating kidney, but the term has been decided to refer only to the rare congenital movable kidney which is supplied with a mesonephron, and which is a true intraperitoneal organ.

The term "movable kidney" has recently been applied to distinguish the kidney which has an abnormally wide range of motion as a result of some post-genital accident; but this name is not descriptive, because all human kidneys move synchronously with the respiratory movements of the individual. A floating kidney is movable surely; so is a normal one, to a lesser degree; so also is the kidney which, surrounded by its fatty envelope, glides hither and thither beneath the peritonæum. Some kidneys move too freely within their adipose capsules, and others, without anterior peritoneal covering, slide about between processes of the peritonæum. All of these conditions require special description by the pathologist, but for clinical descriptions the surgeon had best use the one generic term of "wandering kidney." For diagnostic purposes the objective signs are of much greater value than the history of subjective symptoms, in a case like the one before us, for the former offer positive testimony relating to one subject, and the latter are characteristic of many other conditions.

The normal adult kidney weighs about four ounces and a half. It is four inches long, two inches and half broad, and an inch and a half thick, and it lies about on a level with the last dorsal and two upper lumbar vertebræ.

The right kidney has the smaller anterior peritoneal covering and the longer vessels, and consequently more often becomes a wanderer than its fellow does.

The causes for wandering kidney are various. A railway shock forces the kidney immediately out of place, or causes an extravasation of blood behind and around it, and when the pint or quart of clots has become absorbed, there is no close connective-tissue adhesion to hold the organ in place afterward.

A child in the uterus may kick its mother's kidneys loose. A prolapsed uterus dragging upon the ureter may gradually dislodge a kidney from its moorings, and then the force of gravitation has easy work with it.

The trouble is most frequently found in women who have borne children, and the patient before us says that her symptoms date back to the period of one of her pregnancies.

Wandering kidneys are common enough, but pathologists who make many necropsies do not often find them, because the cadavers are in a dorsal position and the kidneys have dropped back into place. Rigor mortis also obscures the post-mortem signs of loose kidneys.

By inspection we can follow a kidney in some of its peregrinations in a thin patient. A resonant percussion note may be obtained over the unoccupied kidney site, but by palpation we get the best testimony. Israel's method of palpation is a very satisfactory one. A line parallel with the middle line of the abdomen is drawn from the middle of Poupart's ligament to the margin of the ribs. The finger-tips placed two finger-breadths below the margin of the ribs, and upon this line, are directly over the lower extremity of a kidney in place. In order to feel this kidney we must avoid poking with eager hooked fingers, or the abdominal muscles will contract in resentment. The tips of the straight extended fingers are placed upon the point indicated while the patient lies supine, with flexed legs, upon a hard bed or table. The other hand now lifts the loin gently toward the opposed fingers. At each expiration of the patient's breath the fingers upon the abdomen are pressed a little farther toward the kidney, and the impressions of touch kept well in mind. It is not long before the fingers easily recognize the object sought for. If the patient now takes a full breath, a wandering kidney will be forced far under the finger-tips, and in this particular patient it is forced entirely past them, as a grape pops out of its skin.

Guyon finds the kidney by approaching it as Israel does, and then, by sharp pressure of the fingers in the loin, causes spasmodic contraction of the quadratus lumborum muscle and a consequent bumping of the kidney against the fingers upon the anterior abdominal wall.

We can often distinguish a moving kidney from a moving distended gall bladder by the arcs of the circles which the two describe about the fixed points of their respective radii.

Scybala and echinococcus cysts of the liver are said to have been mistaken for wandering kidneys, but certainly not in a patient with such lax abdominal walls as this one has.

The wandering kidney excites the sympathetic plexuses of the abdomen and pelvis, and we have response in constipation or diarrhœa, in nausea and vomiting, in heart "flutterings," in menstrual disturbances, in neuralgias, and in ill-defined tenderness of the abdomen, which causes the patient to step cautiously and to avoid jars.

Such symptoms may belong to so many other conditions, however, that a diagnosis of some trouble a long way off from the kidney is commonly made, and, while there is not a man in this audience who has not had patients with wandering kidneys, I doubt if any one present can say that he has regularly made the correct diagnosis, and some of us must even admit that we have preserved the patient's ovaries nicely on the closet shelf, and allowed the kidney to swing on as of old.

Various forms of apparatus have been devised for holding a wandering kidney in place, and this patient, during the past two years, has tried different plans without success.

Extirpation of the kidney is a last resort, and we shall not think of adopting any such radical measure unless the operation of suturing the kidney into a wound in the loin is also a failure. It is not always easy to find the wandering kidney in this patient, as it ranges clear across the abdomen to the left side and down to the pelvic region. When the patient is conscious, she always finds it for us easily, and it is amusing to see her expert tactics for getting it within the grasp of her hand. Now that she is under the influence of ether, we can not have her aid; but I fortunately have secured the kidney by pressure upon the abdomen over the loin, and will now ask Dr. Dudley to hold it in place, if possible, while the patient is turned upon her left side. In operating upon a kidney with normal adhesions to the loin, a hard folded pillow, placed between the table and the patient's abdomen, will render most valuable aid by forcing the kidney right up into the wound in the loin; but we dare not trust the pillow here.

An incision from the twelfth rib to the brim of the pelvis follows the margin of the quadratus lumborum muscle at first, and gradually slants to a point a little anterior to the margin of that muscle below. I make this slanting line so that when the kidney has grown fast in the wound it will not be pinched between the ribs and the pelvis when the patient bends over to the right. I do not know that any author has called attention to this point, but the dangers of a straight suture line are very apparent.

Just as I reach the circumrenal fat the kidney suddenly pops away from us, and several minutes elapse before it is discovered again. It is impossible to hold it firmly enough for stripping away the fat until I have opened the peritonæum and made pressure from within the abdomen. The dorsum of the kidney finally being exposed, the volsella is inserted and handed to an assistant. A needle with catgut is passed through the lower end of the kidney and the end is drawn up into the wound and sutured to the margins of the transverse and oblique muscles. The upper end of the kidney is likewise transfixed and sutured to the quadrate muscle at a higher point. A double row of small catgut sutures fastens the kidney to the margins of the deep wound on all sides, and, the fibrous capsule having been stripped off from the dorsum of the kidney, a third row of sutures unites the margins of the remaining fibrous capsule to the sides of the wound. This last step seems like a pretty severe measure, but the fibrous capsule is so poorly endowed with blood-vessels and lymphatics that we might not have a sufficient amount of plastic lymph thrown out to insure firm adhesions. Moreover, if an abscess should form in the kidney, it would readily empty itself out of the yielding parenchyma at the bared point.

At each insertion of the needle into the kidney you noticed a sharp gush of blood that stopped almost before the suture was tied, and now that all sutures are in place, there is no further hæmorrhage. I use catgut in preference to silk or silk-worm gut, because it is disagreeable to have to remove sutures later. I do not believe that permanent sutures are of any importance, because if the plastic adhesion is not enough to hold a kidney in place, the permanent sutures would cut out in less than a week's time.

The whole wound is now dusted with aristol to make protective lymph coagula in the tissues, and stuffed loosely with absorbent gauze for drainage. If the wound were sutured closely, primary union would occur so quickly and with so little reaction that adhesions about the kidney might be too delicate. At the end of three days the wound will be packed with balsam of Peru and oakum, in order to stimulate the production of granulations, and it will be sterilized once daily with peroxide of hydrogen. At the end of about three weeks the large granulating surfaces will be sterilized for the last time and then approximated for secondary union.

Notes, Two Months Later.

The wound healed kindly according to plan. The patient's urine was examined on the day before operation, and a complete record of daily urinary examinations made afterward by Dr. C. N. Haskell, of the pathological laboratory of the hospital. The results of this examination were briefly as follows: On the day before operation the patient's urine was normal in character and in quantity. On the first day after the operation it contained albumin, 0·2 per cent. by volume, and a few red blood-corpuscles and leucocytes; no other changes of importance. On the second day, albumin, 1 per cent. by volume, and no important changes from condition on previous day. On the fourth day, albumin, 2 per cent. by volume. After this date only a slight trace of albumin was found, and this trace had disappeared entirely a few days later. Red blood-corpuscles had disappeared on the seventh day after operation, but a few leucocytes were present until the tenth day. The elaborate record in my history books shows various other changes in the urine that seem to be of no great significance.

133 WEST THIRTY-FOURTH STREET.

Hypnotism Extraordinary.—The *Medical Press* tells a story of a certain hypnotizer who "suggested" to a gentleman visitor that he stood *in loco matris* to a troublesome infant whose cries disturbed the peace of the household, and the visitor, having complacently assumed possession of the infant, was left in charge for a while. The pseudomother forthwith took the infant off to the foundling hospital, just as he would have done had he been really the parent. As he had no recollection of what had transpired on awakening from the hypnotic sleep, a further *séance* was necessary in order to discover the whereabouts of the infant.—*Boston Medical and Surgical Journal.*

State Uniform of French Doctors of Medicine.—By a clause in a law bearing the date of the 20 brumaire, an XII, otherwise November 12, 1803, it is enacted that a plain doctor of medicine is authorized to wear at public ceremonies, or when giving evidence before a court of justice, a costume thus composed: A black gown of bolting cloth, the back and front of which are of crimson silk bordered with ermine; a black coat; cambric bands; and a cap of crimson silk, with a border of gold lace.—*Boston Medical and Surgical Journal.*

Original Communications.

OPERATIVE PROCEDURES IN ACUTE GENERAL SUPPURATIVE PERITONITIS.*

By W. E. B. DAVIS, M. D.,
BIRMINGHAM, ALA.,
SURGEON TO BIRMINGHAM HOSPITAL OF UNITED CHARITIES;
SECRETARY OF THE SOUTHERN SURGICAL AND GYNÆCOLOGICAL ASSOCIATION;
FELLOW OF THE AMERICAN ASSOCIATION OF OBSTETRICIANS AND GYNÆCOLOGISTS;
MEMBER OF THE JEFFERSON COUNTY (BIRMINGHAM) BOARD OF MEDICAL EXAMINERS;
SECRETARY OF THE SURGICAL SECTION OF THE AMERICAN MEDICAL ASSOCIATION, ETC.

THAT there may be no confusion over the terms septic and suppurative peritonitis as used in this paper, it may be well to state that it is conceived that their ætiology is the same, and that every septic peritonitis would become suppurative if time permitted, for both are due to the same microbe. Many cases of septic peritonitis are cut short by the power of the organism to take up the germs and destroy them. In other cases the infection is so profound that death is produced in a few hours from toxæmia, before there has been any collection of fluid in the peritoneal cavity; still others die from hæmorrhagic peritonitis in from twelve to forty-eight or even seventy-two hours, before the fluid has become purulent; but, when life is prolonged till after seventy-two hours, and sometimes after forty-eight hours, the fluid in the cavity will be purulent. In the language of Senn,† "In the septic variety death results before the pus microbes have had time to produce their specific pathogenic effect on the histological elements which are destined to become converted into pus-corpuscles."

When quarts and gallons of pus are reported as having been removed from the general peritoneal cavity and recovery followed, I believe that the pus has usually resulted from a local collection which has ruptured into the general cavity, and the operation has been done before sufficient time had elapsed for this amount of pus to result from the septic inflammatory process in the general cavity. It is easy to understand how a gallon of pus which has been shut off from the general cavity by inflammatory exudations and adhesions, and which has only recently ruptured into the peritoneal cavity, can be removed and recovery follow; and it is not difficult to comprehend how this condition might be mistaken for acute general suppurative peritonitis, with a gallon or a quart of pus as a result in the cavity, as the pus, by its irritating properties, will produce an inflammation which would be misleading; but the condition is quite different from what would be had if the *pus* had been the result of a general inflammation. True, there would be many grave symptoms, but not that extensive local inflammation and fatal toxæmia which would result from a peritonitis which had existed long enough to give rise to so large a quantity of free pus in the cavity.

Pathological and clinical study, combined with bacteriological and experimental research, has demonstrated conclusively that by the time a general peritonitis has become purulent there have resulted such destructive local effects and so profound a general infection that the condition must be considered fatal.

The physiological and pathological peculiarities of the peritoneal sac in comparison with other serous cavities, as stated by Hadra,* will explain this rapidly fatal result, as "there is a greater power of resorption, and likewise of secretion and transudation, in the former, which is not only due to the large area of surface, but also to the force under which the fluid contents are pressed into the lymphatic system by the respiratory movements of the diaphragm, and also by intestinal peristalsis." Therefore, with such a system of resorption, there should be no surprise that our patients often die from septic peritonitis in a few hours, and long before the peritoneal fluid has become purulent.

Those who have had much experience with septic peritonitis can appreciate the statement of Hutchison, that "it is almost impossible to exaggerate our conception of the wild-fire rapidity with which inflammation of the serous membranes may extend whenever an adequate cause has been supplied"—the most important fact to remember in the treatment. Experiments on animals and the many cases of peritonitis in the human subject which I have been permitted to see, twelve, fifteen, twenty, thirty-six, forty-eight, and seventy-two hours after the inception of the disease, leave no doubt on this point. I will refer briefly to only a few cases.

At the Birmingham Charity Hospital I operated twelve hours after a stab of the abdomen which perforated the bowel in four places. Peritonitis had involved one half of the cavity, the side on which the injury was received. The intestines on this side were very much inflamed and tympanitic.

Some months ago I saw a case with my brother, in which he opened the abdomen fifteen hours after the man had been shot. There had been considerable escape of fæces into the cavity, and peritonitis was quite extensive.

In 1889 I saw, with Dr. Wyman, at the Charity Hospital, a man who had been shot in the abdomen about twenty hours previously. He was moribund and we did not operate. He died four hours after I saw him—twenty-four hours after the injury—and the autopsy revealed a general hæmorrhagic peritonitis.

During the same year I assisted Dr. Wilson, at the Jefferson County Hospital, in an operation for gunshot wound of the abdomen thirty-eight hours after the injury, and there was a very intense hæmorrhagic peritonitis which involved all the abdominal viscera.

If these cases teach anything, it is that delay in operation in perforating wounds of the intestines will allow a septic peritonitis to develop which can not be relieved by surgery, and that to wait for symptoms in penetrating wounds of the abdomen is to wait for diffused septic peritonitis—which is death.

I could report many cases of peritonitis from perforation of the bowels, or from the emptying of the contents of an abscess into the cavity, or from perforation of the appendix, and from other causes, to illustrate its rapid development and fatal termination, but this is not necessary, even though the length of this paper would permit of it, for the experiments of Pawlowsky, Grawitz, Wegner, and others, who have made acute septic peritonitis the subject of very careful study, leave but little to be added in that direction.

---

* Read by invitation before the Medical Society of the State of New York at its eighty-fifth annual meeting.

† *Principles of Surgery.*

* *Transactions of the Southern Surgical and Gynæcological Association*, 1889.

Another and very important cause of septic peritonitis is a simple inflammation which, by producing inflammation of the intestinal wall, renders it permeable to pathogenic micro-organisms, "which are always present in the intestinal canal,"* and which pass through the weakened intestinal walls into the peritoneal cavity and cause death from septic peritonitis. This is well illustrated in cases of obstruction of the bowel, when the violent peristalsis on the proximal side of the occlusion results in an intense venous engorgement, with transudation and exudation into the paravascular tissues, and explains why the mortality in late operations for obstruction is always so high. Hence in diffuse septic peritonitis there is a double source of infection—the one from the general cavity, and the other from the septic germs which pass through the walls of the intestine, owing to the pathological conditions produced in the tissues of the bowel from the inflammation. Therefore it is not sufficient to remove the source of infection from the cavity, but, if possible, the contents of the intestines, in order to get rid of gas and fluids which contain septic germs, and to relieve the distended, paralyzed guts, which give rise to grave pressure symptoms—symptoms which often resemble obstruction of the bowel from mechanical causes, but which are due to dynamic disturbances.

It is often very difficult to make a diagnosis of general peritonitis, for in the great majority of cases it is a secondary disease, and is greatly modified in its symptoms by the original trouble. The symptoms may be almost completely veiled by other grave conditions. The change in symptoms from a perityphlitic abscess, or a puerperal purulent pelvic peritonitis, is often gradual and not very pronounced. But of all the difficulties, the free use of opium furnishes the greatest—all symptoms are masked, and the physician and family led to believe the patient better and the condition not serious.

Of the local symptoms, pain comes first. It is nearly always present, and it is the severe excruciating pain which first attracts attention. When the pain is local at the beginning, it is of very great diagnostic value as to the cause of the inflammation. Pain, however, is not always present, and I have seen the gravest cases lying comfortable—cases in which the infection was most profound; but where there is present, in connection with pain, rigidity of the abdominal walls, distention of the abdomen and general tenderness, vomiting and eructation of gases, with marked constitutional symptoms—rapid thready pulse, some elevation of temperature, etc.—there can be but little doubt of the existence of general peritonitis; and if there is no recognizable cause, free purgation will, as a rule, show whether it is simple or septic.

I have often seen cases where the diagnosis could not be made with any reasonable degree of certainty because morphine had been given freely, and there was no evidence that the peritonitis was not a simple inflammation. These cases are so frequent that too much stress can not be laid on the importance of withholding opium until after a diagnosis has been made. Only recently I saw a very sad case of this kind in the family of one of our most prominent physicians.

I was sent for thirty-six hours after a girl, eighteen years of age, had been taken with pain in the abdomen, which had been pretty well controlled by morphine. Her pulse was 120, temperature 102·5°, and there was some rigidity of the abdominal muscles, with general tenderness. She evidently had peritonitis, but I could not say that it was septic, and advised the use of calomel in large doses and enemas of glycerin and salts, and directed the attending physician to let me know in twelve hours the result of the treatment, that an operation might be done if there was not very marked improvement. I received no message that night, but on the following morning I found a note saying that she had been purged and was better; this was Wednesday morning. On Thursday morning I received a similar message, but in the evening I was sent for and found her suffering very great pain, with a temperature of 104°, pulse 140, and in a dying condition. There was no doubt then about the diagnosis, but an operation could not have offered any chance of recovery, and while the half dozen physicians present urged me to operate, the mother of the girl was opposed to it unless we could offer more hope of saving her. An autopsy could not be had; but the attending physician informed me that a large quantity of pus came out through the undertaker's trocar.

On a close examination of the physician on my last visit I found that the improvement had never been so much as I had been led to believe, and that the tympanites, tenderness, and rigidity of the abdominal muscles had never disappeared. Had I seen the case twelve hours after my first visit I should have advised an operation. If morphine had been withheld in this case and salines given instead, the diagnosis would have been made early and the patient in all probability saved.

Of course many cases of simple peritonitis will get well without treatment, and opium may relieve the pain, but it always subjects the patient to the danger of septic inflammation and to obstruction of the bowels from adhesions, and too, in many cases, destroys every vestige of chance for the patient, as the diagnosis will thus be obscured and an operation not resorted to in time.

In the beginning of a general peritonitis, when the bowels are tympanitic, I begin by giving a tablespoonful of salts in half a glass of water and direct that the dose be repeated every hour until the patient is freely purged. This treatment is especially indicated in the threatened peritonitis we so often meet after laparotomies. I have seen the symptoms of a beginning peritonitis promptly cut short by the administration of a few concentrated doses of salts or of calomel in from one to three-grain doses repeated hourly. As has been stated, the purgative treatment of peritonitis frequently proves a very valuable diagnostic measure. If it does not succeed, we know that an operation is generally indicated. I have seen this treatment succeed a number of times when I was confident that a laparotomy would be necessary. It is very important not to resort to the free use of morphine unless an operation has already been decided on.

---

* *Intestinal Surgery*, Senn.

In acute septic peritonitis, as met with in childbed fever or after perforation of the bowels, or from the emptying of the contents of an abscess into the cavity, or after operative procedures or accidental traumatism, such as gunshot wounds, stabs, etc., nothing short of an abdominal section can afford any chance of recovery, and this will not offer much prospect unless done very early.

Dr. Price, Dr. Wylie, and others, in this country, have taken a decided stand for early operative interference in this class of cases. Montgomery * says laparotomy is especially indicated by advanced tympanites and effusion. Barwell contented himself with washing and sponging out the cavity in a case of suppurative peritonitis without drainage; but Treves, Truc, Price, and the majority of operators favor drainage and irrigation as conditions require. In perforative peritonitis Escher and Truc would limit the performance of laparotomy to the cases of traumatic origin, as "the adhesive inflammation can not be relied upon to limit the escape of the contents of the viscus." As the patient is healthy and the tissues in good condition, they think in these cases an operation not only possible, but advisable. But they think that "in pathological conditions the adhesive inflammation can render more valuable service, as the patient is usually too exhausted from disease to stand a protracted operation, and as the softened condition of the tissues gives no guarantee of a closure." Hence they would not operate in perforation due to typhoid, dysenteric, and tubercular ulcers. Mears says: † "Surgical interference is not justifiable and should not be instituted in cases of typhoid fever in which perforation occurs when the infective process is at its height. In mild cases of the disease in which the pyrexia has not been of high grade and in which the perforation occurs at the end of the third week or later, when the stage of convalescence is fully pronounced, laparotomy may be performed."

There is no want of results to show that operations, when done early, are of benefit, but, on the contrary, late operations are universally fatal, for, as Hadra has said, "well-developed acute septic peritonitis, as a rule, may be considered fatal, with or without surgical interference." In view of the fatality of this disease, he advocated "*open treatment*, ‡ a full exposure of the abdominal cavity, which should be maintained until the danger has passed by. . . . As much of the omentum and of the bowels as find no ready room inside should be left resting on the surface." He claims that by this method "the cavity would be sufficiently cleansed and kept dry, the bowels to a great extent excluded, the exchange of poisonous materials diminished, the bowels, peritonæum, and all the other involved organs relieved of pressure. . . . Suction by the peritoneal and diaphragmatic lymph organs would at once be greatly counteracted." He says that the irritation of the dressings over the patient's abdominal organs need not be dreaded, as "we possess in the gutta-percha tissue a nearly ideal non-irritative, air and germ tight material."

In the discussion of Dr. Hadra's paper I stated that I would adopt his method in my next case, but, after a thorough study of his operation, I was convinced that it would not meet the indications for treatment so completely as the plan which I suggested a year ago at the Alabama Medical Association, and which "will allow of the complete exposure of the abdominal cavity, the removal of the cause of inflammation, and assist in restoring the functions of the intestines."

The abdomen should be opened in the median line if the seat of the causative trouble can not be found; the cause, if found, removed; the cavity thoroughly douched with hot water; all adhesions broken up; and, if tympanites is not marked, drainage-tubes are introduced, through which the cavity may be washed out as indications require. If the cause be found in the region of the cæcum, the drainage-tubes should be introduced through a second incision in the right iliac region.

In those cases in which tympanites is marked, causing pressure on all the abdominal organs, and thus creating much constitutional trouble, it will require special attention, and upon this point I desire to lay great stress, for this condition is a dangerous one of itself. Not only does the weakened intestinal wall permit of the continued passage of septic germs into the peritoneal cavity and afford constant infection, but it must be remembered that the bowel can not be replaced without great pressure and consequent traumatism, which will often kill in a few hours from shock thus induced. In advanced cases of peritonitis it must always be remembered that the walls of the intestines are rendered inactive by inflammation, and the power of contraction can not be restored until the inflammation is relieved; and hence the bowel will continue tympanitic and the exchange of septic germs kept up, unless this condition is remedied. Depaul punctured the intestine with a fine hollow needle in cases of tympanites with dangerous pressure symptoms, and this has been recommended by many of the leading writers up to this time; even Senn refers to this as a procedure which may be resorted to. This has been tried by me a number of times, and I was never able to see an appreciable decrease in the tympanites, and it is not reasonable to suppose that a paralyzed bowel could expel any quantity of gas through a needle. I have also practiced making incisions into the bowel after eventration, and by pressure attempted to expel the gas, but this does not prove satisfactory. I consider the best method of relieving a distended, paralyzed gut, full of poisonous gas, is to fill it with hot water, as this will not only free it of tympanites, but, in getting rid of the gas and fæces, etc., prevents infection. The intestines should not be permitted to escape from the cavity, as their distention will grow greater the longer they are allowed to remain unsupported by the abdominal walls. The tunics being inflamed, the intestines are completely paralyzed and can not expel their contents when incised on the outside of the abdomen; and hence this should be done with the bowels on the inside, that they may be compressed by the abdominal walls. From the time the abdomen is opened a competent assistant should begin to break up adhesions and to direct a strong stream of hot water into all parts of the cavity, while the operator incises the intestine and washes it out. It may be necessary to make more than one opening in the bowel. Before beginning the operation the stomach should be thoroughly washed and the colon freed of its contents.

---

* *Transactions of the American Association of Obstetricians and Gynæcologists*, 1888.

† *Transactions of the American Surgical Association*, 1888.

‡ *Transactions of the Southern Surgical and Gynæcological Association*, 1889.

In those cases where the symptoms resemble obstruction of the bowel from mechanical causes, after the bowel has been emptied and, if possible, washed thoroughly, an artificial anus should be formed. The whole procedure can be accomplished in a remarkably short time.

Recently I operated on a young man five days after a perforation of the appendix. His physician tried to relieve him with opium and poultices for four days, and then diagnosticated the case to be obstruction of the bowel from invagination. When I was called, the physician had begun to use purgatives and enemas, and thought that there was hope of relieving the obstruction by medicine, as the man had passed a very small quantity of fæces that day. I expressed the opinion that it was a case of suppurative peritonitis, which would kill with or without operation. As the young man begged for the slightest chance an operation would promise, I opened the abdomen, incised the intestine, and allowed the escape of a large quantity of very offensive fluid and gas. At the same time, the abdominal cavity was freed from a purulent fluid by hot water, which was directed to every portion of the cavity. The incised gut was stitched to the lower angle of the abdominal wound and a drainage-tube introduced through the upper angle. The artificial anus was made in the median line that the recti muscles might aid in retaining the contents of the intestine. The patient died on the next day.

There is often an obstruction in the ileo-cæcal region from adhesions produced by the inflammatory process which has caused the peritonitis, and in such cases it may be well to do an anastomosis by uniting the lower part of the ileum with the ascending colon.

In 1889 I adopted this plan in a case of suppurative peritonitis due to the rupture of a perityphlitic abscess, in which there was a compound flexion of the ileum in the ileo-cæcal region from very strong adhesions. The peritonitis was well developed and the tympanites was very great. After the abdominal cavity was thoroughly irrigated and the bowel emptied of its contents, as the patient was holding up well, to avoid the necessity of resorting to the formation of an artificial anus, I requested my brother to do an anastomosis with his catgut mats. The ileum was united with the ascending colon in a very few minutes. Three hours after the operation the patient had a small fæcal action and passed a large quantity of gas. Fourteen hours after the operation he sat up in bed and died suddenly from exhaustion. Necropsy two hours after death. Abdominal wound united. Omentum adherent to wound at the points of operation and incision. The anastomosis was perfect and the adhesions extended a little beyond the line of approximation mats.

In the paper read before the Alabama Medical Association a year ago, in addition to the plan of operating suggested here, I recommended that in some cases where the artificial anus was resorted to the ileum should be flexed and an anastomosis done eight or ten inches from the seat of the proposed anus. This was recommended so that it would not be necessary to resort to a subsequent laparotomy in order to cure the artificial anus; for this could be done after the anastomosis without interfering with the flow of the intestinal contents.

Since I read that paper more extended experiments with the operation have taught me that in the cases in which it would be indicated the patient's condition would not permit of the extra time required for its performance, and hence it is now my opinion that it will be very exceptionally indicated.

A STUDY OF THE PHARMACOLOGY AND THERAPEUTICS OF ARSENIC.*

By JOHN AULDE, M. D.,
PHILADELPHIA.

Pharmacology.—In the course of his studies on isomorphism and physiological action, Blake found that arsenic acid, phosphoric acid, and antimony differed only in kind in their effect upon the economy, and that all of them killed by arresting the pulmonary circulation. Lethal doses of arsenic caused the face to turn pale, and it assumed a bluish tinge with a pinched expression, resembling that which has been observed in Asiatic cholera. One of the greatest dangers from arsenical preparations lies in the fact that arsenic is almost a tasteless poison.

Absorption is by the stomach, by the skin when abraded, and by the respiratory apparatus; absorption is more rapid when taken internally if the stomach is empty, and poisoning may occur from the ingestion of arsenic in the solid or powdered form, and some time elapse before the usual symptoms are manifested. Elimination is chiefly by the urine, although this is somewhat irregular, but at least a portion of the poison is excreted by the bile, by the skin, and by the pulmonary mucous membrane. The comparatively rapid elimination was demonstrated by Maclagan, who witnessed a Styrian arsenic eater swallow a large dose, and within a short time a considerable portion of the drug was recovered from the urine, although Putnam demonstrated the presence of arsenic in the urine seven or eight months after treatment with the drug.

Classed as an alterative, arsenic has long been recognized as an antiperiodic and a powerful ally of quinine, and Headland describes it as a catalytic medicine in every way; he believes that it possesses three distinct properties, through its action upon the blood as shown in its application for the relief of periodic disorders as well as convulsive and cutaneous diseases. Arsenious acid diminishes the absorption of oxygen and lessens the evolution of carbonic acid, and, like antimony and phosphorus, has a special action on tissue change, affecting the glandular, nervous, respiratory, and cutaneous systems. The exhibition of large doses for a length of time is followed by fatty degeneration

---

* Read before the Northern Medical Society of Philadelphia, December 12, 1890. (Received for publication, January 6, 1891.—Ed.)

of the various organs, appearing first in the liver, a fact which points to the function of that organ as an agent for the destruction or elimination of the poison. The value of arsenic is well known as a preventive of putrefactive changes; outside the body a solution will retard the coagulation of the blood, and that it modifies tissue-change can not be doubted. In one sense, it is used to check the progress of retrograde changes, while at the same time degenerative changes attend its administration, a statement which at first sight appears to be rather paradoxical, but which is nevertheless true. Possessing sedative properties when applied to mucous membranes in small doses, arsenious acid has been so used, and is a valuable agent for the relief of gastric irritation; after the system has become accustomed to its presence a remarkable tolerance is established, and four or five grains or a drachm may be taken with impunity.

That arsenic affects the *nervous system* requires no special argument, its antispasmodic properties having long been recognized. Arsenic, it is claimed, paralyzes the splanchnics, allowing the abdominal vessels to dilate; Brunton also teaches that it stimulates the motor ganglia of the heart, which is indicated by increased rapidity and energy of the contractions, a fact which may be demonstrated either by the internal or subcutaneous administration (Boehm). In poisoning from arsenic, large doses may so affect the nervous system that gastro-intestinal irritation will not be set up, and coma, similar to opium narcosis, instead of convulsions, may follow. This statement would seem to accord with the assertion that the drug paralyzes the ends of the vaso-motor nerves in the vessels, apart from an action upon the contractile walls or the central nervous system, although the methods by which this has been demonstrated are not without fallacy. The paralysis here spoken of is shown by the vessels not contracting by stimulation (irritation) of the vaso-motor nerves, but doing so on direct stimulation (irritation). Small doses increase the activity of the pulse, while large doses diminish its frequency and lower the blood-pressure.

As a *respiratory medicament*, arsenic is a remedy of decided value, but, from what has been said, the reader will naturally infer that it is a drug which must be used with great caution, and when patients are under its influence, the dangers following its continued use should be explained so as to avoid unfortunate results. Self-medication on the part of the laity with any combination containing arsenic is to be strongly condemned. By some it is said that in the active stage of pulmonary disease antimony is more serviceable, and that arsenic is especially valuable in chronic affections of the respiratory tract, when the products of inflammation may be influenced by fatty degeneration and softening, in time to be followed by absorption, or the *débris*, acting as a foreign body, will cause cough, when the material will be expectorated. And it may be remarked parenthetically that herein lies a plausible explanation of the *double action* of arsenic, where destructive changes are going on side by side with reconstruction, by which it would appear that in diseased conditions the remedy has a greater affinity, or, shall I say, selective action, upon the unhealthy tissues. Should the remedy be continued, of course degenerative changes will follow the deposition of the poison, and, notwithstanding the conservative processes of nature, the drug can not be expected to eliminate the inflammatory products set up by its own action. It should also be noted that the inhalation of arsenical fumes is especially liable to produce toxic symptoms, and a frequent source of bronchial irritation may be discovered in the paper used for decorating sleeping and other rooms in private families. A similar danger lurks in the coloring matter used in the manufacture of ladies' hosiery and dress fabrics, and not a few cases of poisoning in this manner have been reported in current medical literature within the last few years. Arsenical poisoning has occurred from the handling of green candles, although the green color is not due to the presence of arsenic but to copper. Mr. Stokes, the public analyst for the Paddington District of London, has called attention to the number of household things which contain arsenic. Thus he found not less than two and one tenth grains per square yard in imitation muslins and cretonnes; the colors showing the largest proportion of arsenic were the terra-cotta reds and greenish-browns. A single green mat weighing nine ounces was found upon examination to contain twenty-one grains of white arsenic.

In animals poisoned by arsenic it has been noticed that the epithelium lining the alveoli of the lung structure undergoes fatty degeneration (Cornil). It accumulates in nearly every tissue and organ, as shown and demonstrated repeatedly in human beings, and even the hair is not exempt. Considerable portions have been recovered from the brain and spinal cord (Scolosoboff), and Ludwig believes that it persists longer in the liver than in the bones. Brouardel, however, teaches that when small doses are long continued, arsenic shows a disposition to accumulate in the spongy tissue of the flat bones, but when administered more rapidly and in larger doses, deposits occur in bones rich in compact tissue.

The temperature is lowered by lethal doses of arsenic.

Experimental demonstrations show that arsenic is one of a group of poisons which lessen the strength of the *muscular system;* in other words, it diminishes the capacity of the muscle for the performance of a certain amount of work, although the muscular irritability remains unaffected. Most of the remedies of the group, according to Brunton, have an emetic action. This effect appears to be very much the same as that produced by large doses, although it has been noted that small doses of iron seem to increase the capacity of muscle. After poisoning by arsenic, a muscle may seem to be paralyzed as a result, but this effect is generally temporary; in such cases the extensors appear to be more affected than the flexors. On the other hand, the Styrian constitution apparently thrives under the generous and continued use of this poison, the respiratory functions being greatly heightened, the combativeness increased, while the *embonpoint* and salacity of these simple peoples have become proverbial.

The influence of arsenic upon the *digestive system* is characterized by stimulation of the gastric functions, increased appetite, and it has been shown experimentally in the test-tube that arsenical solutions favor the action of pepsin, a point which may be of some service when it is desired to combine with it the digestive ferments. As a gastro-intestinal irritant in large doses, it causes vomiting and purging, cramps of the extremities, and finally the characteristic rice-water discharges so well known in Asiatic cholera. When this remedy is given for neuralgia, small doses should be administered when the stomach is empty, although this plan is contra-indicated for general employment. There is less liability of deranging the digestion when medicinal doses are exhibited if the drug be taken immediately after food. In those who are accustomed to take large quantities, tolerance is maintained by the avoidance of water, thus insuring absorption more slowly.

The action of arsenic upon the *cutaneous system* is peculiar; in frogs, a few hours after administration, the cuticle can be stripped off the whole body, a condition supposed to be due to the softening of the protoplasm of the columnar layer of the cells of the epidermis (Ringer and Murrell). It has been suggested that arsenic may favor reconstructive metamorphosis in the cells of the epidermis, through its stimulant (irritant) action upon protoplasm, although this would not warrant its employment in acute cases, nor in chronic cases where inflammatory action is going on. Applied to the skin denuded of its epithelium, a slough follows, and if the area be large, constitutional effects may be produced; but penetration may be avoided by concentrating the preparation and covering only a small portion at one time—a space not larger than a postage stamp. Arsenic has long been used to destroy warts, condylomata, lupus and lupoid ulcerations, cancerous growths, and for the destruction of the nerves of carious teeth. Although arsenic has been chiefly employed in the treatment of skin diseases, there are times when its use is contra-indicated, and from what has been said it will be apparent that the selection of this remedy requires mature judgment, as its continued employment may cause irreparable injury.

Like phosphorus and antimony, arsenic destroys the glycogenic function of *the liver* and produces fatty degeneration, and a notable fact in this connection is that, on the arrest or suppression of this function, puncture of the floor of the fourth ventricle does not cause glycosuria, which furnishes us with a possible explanation of the value of arsenical preparations in the treatment of diabetes.

The symptoms of *chronic poisoning* are colicky pains, diarrhœa, irritation of the upper air-passages, slight cough, with a white and silvery appearance of the tongue, accompanied by great prostration—a condition, I fear, which is too frequent in its occurrence. Temporary albuminuria has also been reported, as well as peripheral neuritis, formication, etc., and occasionally altered electrical reactions. The opportunities for the inhalation of vapor or dust from substances charged with arsenic are so numerous, and such a small quantity is sufficient to produce constitutional effects, that poisoning is liable to arise as a complication in cases where least anticipated. Fowler's solution, given for the relief of chorea in a young girl, produced general pigmentation extending over the entire body (Leszynsky).

Therapeutics.—To secure brilliant results from the exhibition of arsenic, in addition to a correct knowledge of its pharmacology, the student should possess clear and distinct ideas regarding its *antidotes and incompatibles.* The treatment of *acute poisoning* consists briefly in securing the evacuation of the stomach contents by vomiting or the use of the stomach-pump or siphon, together with the free use of dialyzed iron, or the freshly precipitated oxide, in the form of a bolus, in the proportion of six grains of the oxide to each grain of arsenic. Other measures include the administration of animal charcoal, the freshly precipitated hydrate of magnesia, lime-water(?), and, later on, oils and demulcents with opium in some form, and bismuth subcarbonate to allay local irritation.

So long as there is reason to believe that any of the poison remains in the stomach undissolved, water should be withheld, as it only favors the more rapid absorption. Within twelve to twenty-four hours after the subsidence of the active symptoms, remedies should be administered with a view to *promote rapid elimination*, among the more important being potassium iodide, dry diet, and laxatives, along with the free use of dialyzed iron; but astringents should be avoided. The treatment of *chronic poisoning* will be conducted on the same general plan, to which may be added some of the more active vegetable alteratives—such as sarsaparilla, stillingia, and xanthoxylum, together with ipecac and podophyllum for their action upon the liver. The importance of maintaining a healthy condition of the skin and the activity of the kidneys must not be overlooked, and the same is true as regards the supply of nutritious and readily assimilable food.

When arsenic is administered in small medicinal doses, all remedies which promote reconstructive metamorphosis, including iron, act as *synergists*, a subject which will be more fully understood from a study of the accompanying formulæ, as prescribed for the various diseased conditions for which arsenic is indicated.

As a preliminary to the remarks which follow, and in view of the important properties possessed by the drug, a few words in explanation of the method adopted seems appropriate. The properties possessed by arsenic are various and numerous, but its consideration as an alterative, a nervine tonic, a general and special stimulant, an escharotic, etc., would be unwieldy, and calculated to distract rather than concentrate the attention. The subjects for discussion have, therefore, been conveniently grouped, although some of the sections appear to be arranged somewhat artificially, in the hope that the reader would thus be enabled to gain a more practical idea of the general and special applications of the drug.

These subdivisions include the *administration of arsenic* in (1) diseases affecting the alimentary tract, (2) the respiratory apparatus, (3) the nervous system, (4) diseases dependent upon the condition of the blood, (5) cutaneous diseases and topical uses, and (6) the hypodermic use of the drug.

In this connection a word in regard to *the dose* appears to be demanded, as, notwithstanding its wide range of application, there is a prevalent belief that arsenic alone in sufficient dosage will conquer, overcome, or counteract pathological changes due to either functional or organic disease, when in truth it supplies but a single factor in this vital transformation. Appropriate hygienic and dietetic regulations must be taken into account; both the moral and physical surroundings require consideration at the hands of the physician; but, above all, is it necessary to promote a healthy condition of the various organs—the liver, kidneys, the respiratory and digestive apparatuses—by the exhibition of suitable medicaments, either separately or combined with the drug under consideration.

These matters having been recognized and received proper attention, it will be found that the *therapeutical probabilities* may be calculated with a degree of certainty which is no less surprising than pleasing. The dose then becomes a matter of secondary consideration, as it is only necessary that the drug be exhibited at regular intervals to secure the expected results; and, as a rule, *the smallest doses* given at short intervals, under proper restrictions, will prove most efficient, while it removes entirely the element of danger. The administration is thus placed upon a scientific rather than an empirical footing.

1. Diseases of the *alimentary tract*—such as dyspepsia, accompanied by gastralgia, heartburn, and vomiting of food, as well as the vomiting of pregnancy, and the morning vomiting of drunkards—are all benefited by the judicious exhibition of arsenic in solution, repeated at short intervals, say one tenth of a drop of Fowler's solution every ten minutes for an hour, then half a drop or less every hour. But, while the indications point to arsenic, and while the sedative effect may prove efficient for the time being, the local irritation would suggest anodynes, opium in some form—as codeine, morphine, or laudanum—or, in special cases, cocaine. And yet this is but the treatment of a symptom, a mere dallying with disease, because the pathological condition remains unchanged.

Although the *vomiting of drunkards* may be partly owing to the local mischief set up in the stomach by the alcohol, there is the derangement of the hepatic function, which interrupts the normal flow of blood from the stomach into the liver, causing more or less congestion. This is well illustrated in attacks of pyrosis, chronic gastric catarrh, with regurgitation of food without nausea, along with the "spontaneous exhalation" of various gases by the gastric mucous membrane. This class of cases comes under the general head of dyspepsia, but in reality they are more frequently due to deficient activity on the part of the liver (imperfect metabolism), superinduced by improper diet, than to any other one cause. As a rule, there is too little substantial food taken, and too much seasoning and pastry. The breath is heavy, the tongue coated, and the bowels alternating between constipation and diarrhœa, and, as a temporary expedient, cupric arsenite will be found superior to arsenic alone.

The *vomiting of pregnancy* is often due to a changed state of affairs in the nervous system, which brings about congestion of the liver, and thus the treatment of the condition rather than the symptom will be directed more especially to the cause, after the emergency has received attention.

℞ Acidi arseniosi, }
Ext. ignatiæ, } ....āā gr. ss.;
Pulv. ipecac., }
Ext. cascaræ sagradæ, } ......āā gr. xv;
Ol. gaultheriæ................ gtt. ij.
M. et ft. pil. No. xx.

Sig.: One pill after meals, the patient being advised to take a dry diet, with liquids principally between meals.

Gastrodynia, gastralgia, and enteralgia, when uncomplicated by ulcer, cancer, or by rheumatic, gouty, or uric-acid diathesis, will generally respond to treatment running in lines parallel to those governing the preparation of the above formula, in which the arsenic acts as a local sedative, the ignatia answers the purpose of a bitter and stomachic and nervine tonic, while the ipecac is a hepatic stimulant, the cascara a laxative, and the oil of wintergreen a carminative. In the case of *cancer and ulcer*, or where the debilitated condition of the patient would lead us to suspect erosion of the mucous membrane, arsenic must be combined with suitable antiseptics and disinfectants—as naphthol, iodoform, or bismuth; but caution is necessary to prescribe no remedy which will injure the peptic ferment of the gastric juice.

℞ Acidi arseniosi................ gr. ss.;
Beta naphthol................ gr. xij.
M. et ft. pil. No xxiv.

Sig.: Take one pill every four hours.

When we have to deal with a constitutional affection, of which the stomach trouble is the local manifestation—as *rheumatism, gout, or lithiasis*—remedies calculated to counteract the principal malady are indicated. The alkaline mineral waters, especially those containing arsenic, will be found most serviceable along with a properly selected dietary and appropriate hygiene.

Constipation, with marked dryness of the stools, is not infrequently an accompaniment of so-called irritative dyspepsia, which is promptly overcome by the administration of small doses of arsenic in combination with a simple bitter.

℞ Liq. potassii arsenitis........ gtt. xxxvj;
Syr. pruni virg.............. f ʒ ij;
Infus. gentianæ.......q. s. ad f ℥ iij.
M. Sig.: Take one teaspoonful after meals.

When the constipation is due to the irritation set up in the small intestine by the presence of undigested food Fowler's solution should be combined with pepsin and taken an hour after meals. Again, if it be due to the presence of starchy or fatty products, a result of intestinal indigestion, causing fermentation and distention of the muscular fibers of the gut, the indications point to the use of arsenic in combination with pancreatin, the mixture to be taken two to two hours and a half after food.

These cases of constipation are occasionally attended with *diarrhœa and dysentery* (entero-colitis); the stools are slimy, clay-colored, sometimes containing blood and mucus, and there is great prostration, with a desire to evacuate the bowels immediately after taking food. Occurring in adults and children, it may be and often is due to a malarial complication, which is but partially met by arsenic. At other times the disorder is evidently due to hepatic engorgement, or to some one of the causes of irritative dyspepsia already mentioned. Small doses of arsenic are valuable in keeping the disease in check, but are not curative in the true sense of the term. A study of the preceding remarks will indicate the line of treatment to be pursued in these cases.

This brings us to note the striking similarity between arsenical poisoning and *Asiatic cholera*. So closely do they resemble each other, not only symptomatically, but in morbid anatomy, that the theoretical value of arsenic in this disease has been strongly advocated. It appears, however, from a clinical standpoint, that, by injecting copper as a factor, in the form of cupric arsenite, we have a remedy which more nearly covers the ground. Thorington's observations concerning the advantages of cocaine as an anti-emetic in *yellow fever* would seem to point to the use of arsenic and cocaine in both diseases.

Along with gastro-intestinal catarrh are generally associated catarrh of the bile-ducts and jaundice, and, when this condition is found in drunkards, it is usually accompanied by more or less *hepatic cirrhosis* and defective metabolism. These cases are benefited by arsenic, preferably combined with sodium phosphate, as advocated by Bartholow.

℞ Sodii arseniat.................. gr. j;
Sodii phosphat................. ℥ iij.

M. Sig.: Take one teaspoonful in hot water before meals three times daily.

It has been suggested that jaundice of malarial origin is more especially amenable to arsenic on account of its anti-periodic properties, and that, in cirrhosis, arsenic favors fatty degeneration of the unhealthy tissues; but, while there may be apparently good reasons for accepting these theories, it is a doctrine to which we can not fully subscribe, believing that, in these instances at least, it presents more the characteristics of *a catalytic*.

There is a form of *albuminuria*, dependent apparently upon indigestion, in which arsenic, in small doses with meals, proves useful, and Bartholow has pointed out the value of arsenic in *diabetes* of hepatic origin, the philosophy of which has already been explained in the section on pharmacology. The bromide of arsenic, commonly known as Clemens's solution, first proposed in 1883, has been used extensively. It is, however, adapted only to the milder cases, in which the sugar does not exceed four per cent. Flint, Jr., favors a strict dietary, excluding starch and sugar, with suitable hygiene and exercise, but no alcohol. To this regimen is added three drops of the solution of the bromide three times daily; but it must be long continued, and the urine should be examined at intervals of less than a week.

Vigier recommends the following for the relief of diabetes:

℞ Lithii carbonat................ gr. xxx;
Sodii arseniat................. gr. j;
Ext. gentianæ................. gr. xv.

M. et div. in caps. No. xx.

Sig.: Take one capsule morning and evening.

2. Diseases of *the respiratory apparatus* have long afforded the therapeutist an attractive field for study and experimentation. I have already referred to the view advanced by Brunton—viz., that arsenic causes fatty degeneration—and it remains to make some observations and suggestions concerning the application of arsenic in these affections.

In *acute catarrh* it should be borne in mind that arsenic is not a drug possessing any value; but when this catarrh has become chronic, when there is an unhealthy condition of the bronchial tubes, either with or without an increased secretion, then arsenic becomes serviceable. In *chronic bronchitis*, bronchiectasis, and in emphysema of the lungs, small doses of arsenic will often afford surprising benefits. When the expectoration is copious and viscid, as in chronic bronchitis and in plastic bronchitis, the combination of arsenic with calcium sulphide—one one hundredth of a grain of the former with one tenth of a grain of the latter in the form of a tablet triturate—will be found an excellent plan. One of these triturates can be given every two hours. To meet the demands furnished by that peculiar disease *hay asthma*, as well as some cases of spasmodic asthma, arsenic may be used with the expectation that it will improve the nutrition of the pulmonary structures.

Owing to the fact that the inhalation of *arsenical fumes* is much more rapid in action, the practice of taking this drug by means of inhalation suggested the plan of using cigarettes charged with the substance. Trousseau's formula is as follows: To one ounce of distilled water add fifteen grains of potassium arsenite. This is sufficient for twenty cigarettes, which are made by dipping twenty pieces of unsized paper in it, and, after drying, they are to be folded in the proper form. Two or three are to be smoked daily and the fumes inhaled. It is certainly one of the quickest methods of securing the constitutional effects of the drug, and is especially valuable in the treatment of numerous affections of the upper air-passages. Consolidation of the lung following pneumonia is benefited by the arsenical cigarettes, but when that can not be adopted, where iron and strychnine are not contra-indicated, the following combination will prove valuable.

℞ Acidi arseniosi }
Strych. sulphat., } .... āā gr. ss.;
Ferri subcarbonas................ gr. l.

M. et ft. pil. No. xxv.

Sig.: Take one pill after meals.

Coming now to consider the indications for the employment of arsenic in the treatment of affections of the lung-structure proper, I appreciate the responsibility, and consequently approach the subject with diffidence. Catarrhal *pneumonia* and catarrhal *phthisis* are certainly benefited by the judicious use of arsenical preparations, and they are especially valuable in all forms of phthisis, except caseous degeneration, whenever the progress of the disease is slow; but much depends upon the success of our efforts in maintaining the nutrition of the system, as, when that fails, the progress of the disease is rapid and will terminate fatally in spite of our best endeavors.

In this connection may be mentioned the suggestion of Catani, of Italy, that a microbe might with safety be introduced into the system which should be fatal to the *Bacillus* *tuberculosis.* This micro-organism he claims to have discovered in the *Bacterium termo*, which is harmless to man but fatal to the destructive bacillus. It will be appropriate here also to make reference to the report of Dr. Biggs, Dr. Prudden, and Dr. Loomis, of New York, to the Board of Health of that city, whose advice and recommendations are based on strictly logical deductions ascertained from experimental pathology. . This report states that, in the opinion of the committee, tuberculosis is distinctly *a preventable disease*, and proceeds to show the manner in which it is transmitted by milk and flesh of tuberculous animals, and through the intermediary of the sputum of persons suffering from the disease. The prevention of the disease, therefore, they conclude, is within the range of possibilities and may be encompassed by the avoidance of all those sources which tend to contaminate the atmosphere and the selection of food-products which are free from infection. The report notes the necessity for the thorough ventilation of churches, schools, theatres, and other places of public resort, and the members are very decidedly of the opinion that steamship companies should provide separate apartments for consumptive persons, with a view to avoid such sources of active danger as regards their fellow-travelers.

While it would be out of place to discuss the contagious character of phthisis, or the ætiological relation of the *Bacillus tuberculosis* to the disease, I am prompted to express the opinion that the gist of this report covers practically the ground of the contagious character of the disease. It is in many respects the counterpart of typhoid fever, and is neither infectious nor contagious, but *contactuous.* Without contact *the bacillus* is neither the cause nor the effect of phthisis, but rather *an incidental factor*, and the experimental observations of Trudeau, of Saranac Lake, New York, appear to confirm this proposition.

Arsenic is antiseptic, but it possesses no properties which would make it of value in the doses administered as a microbicide. All that can be expected of it will be determined by its power to promote reconstructive metamorphosis; and with the advantages of the best facilities for improving the nutrition and increasing the resistance of the organism, arsenic will accomplish much in arresting the progress of the disease by increasing the vitality of the patient. Da Costa teaches that wherever the *Bacillus tuberculosis* is found the presence of phthisis is determined, but that the absence of the bacillus is no evidence that tuberculosis is wanting; and since well-authenticated cases of consumption have been known to recover, it is not improbable that through the discoveries of Koch the malignity of the bacillus may be mitigated, if not wholly destroyed.

3. The antispasmodic properties of arsenic are shown by its influence in controlling and relieving diseases of *the nervous system*, among which may be mentioned chorea, whooping-cough, neuralgia, and epilepsy. As children bear arsenic much better than adults, it may be given to them in substantial doses, but, to avoid the cumulative action, large initial doses should be administered. In the case of *chorea* a child can take one drop, not minim, for each year of age up to eight years, three times daily, at the beginning of treatment. The effects of the drug must be watched, and the dose gradually reduced one or two drops every two or three days, and when puffiness of the eyelids, irritation of the conjunctivæ, or other manifestations of arsenical poisoning appear, the remedy must be discontinued or the dose considerably lessened. As the symptoms of poisoning may arise suddenly, the physician should see the patient at short intervals, and order only sufficient medicine to carry the patient through the interval. Iron preparations and cimicifuga are sometimes valuable adjuvants to other treatment, but there is no medicine which can take the place of cerebral rest and nutritious diet.

Arsenic has been used with varying degrees of success in the treatment of *whooping-cough*, although it forms but one factor in the general treatment. Its use in *intermittents*, which are by some regarded as being of nervous origin, has already been referred to in the preceding pages.

Cases of *neuralgia*, tic, and hemicrania, as well as *spasmodic nervous affections*, often respond promptly to the use of arsenical preparations; but, to secure the best results, small doses at short intervals should be given, and, as a rule, the preparations in solution act more promptly than the solid, especially when these are in pill-form. When it is desired to reach distant organs or tissues quickly, and the liquid preparations disagree with the stomach, and the hypodermic method is not available, tablet triturates which are freely soluble and contain the exact dose, allowed to dissolve in the mouth, will be found convenient.

In the treatment of *epilepsy* the use of arsenic will be indicated for its property of promoting reconstructive metamorphosis, and probably for the same reason it has been suggested for the relief of *melancholia* and functional impotence, in which case it should be combined with a suitable preparation of iron. *Cerebral congestion*, the passive variety, is also benefited by the exhibition of arsenic.

4. There are quite a large number of diseases which are apparently due to the *condition of the blood* in which arsenic has developed a wonderful capacity for curing. First on the list may be mentioned *anæmia and chlorosis*, and as concomitants of these should be noted amenorrhœa and menorrhagia. Where there are no contra-indications, the drug will best serve our purpose if combined with some preparation of iron and a substantial dose of ipecac, attention being given in the mean time to the bowels and the secretions. If there be a suspicion that malaria is one of the elements favoring the persistence of the disease, but little progress will be made until this morbid condition is corrected by the administration of salts of cinchona, preferably the soluble salts of quinine.

Koch has demonstrated the antiseptic properties of arsenic by showing that the bacilli anthracis are destroyed by contact for ten days with a one-per-cent. watery solution. It was upon a theory similar to this that Liebig built his hypothesis of controlling contagious disorders by the conjoint use of arsenic and mercury, because outside the body they possess the power to control putrefactive changes. Possibly the combination of arsenic and quinine may exert some such influence in counteracting the malarial poison and combating other poisons which find their way into the circulating fluid. Osler claims arsenic as specific for the relief of *puerperal anæmia* when there is no atrophy of the gastric tubules, but it must be given in large doses—five to twenty-five minims of Fowler's solution three times daily. It is also a valuable drug in the treatment of *leucocythæmia*, but, as in the class of cases just mentioned, the drug may require to be pushed to the physiological limit; when not well tolerated by the stomach, the hypodermic method or inhalations should be tried.

Occasionally the physician will meet with *heart troubles* which apparently do not depend upon organic changes, although occurring in elderly people. More or less œdema of the extremities occurs from time to time, which may be met by the use of cardiac tonics and stimulants, but the whole system seems to be in a debilitated condition, so that in time abdominal dropsy appears. No kidney complications exist, nor is there obstruction to the portal circulation, but the watery portion of the blood finds its way into the cellular tissues. The condition of the heart-muscle corresponds with the general condition of the patient; the organ is flabby and the contractions incomplete, and, as a result, the foregoing morbid changes present themselves. Arsenic is here a most valuable drug, and, when combined with preparations of iron and a soluble salt of strychnine, good results may be expected.

In the case of chronic *rheumatism* and so-called *rheumatic gout*, although the therapeutical indications are not well understood, there is no doubt of the value of arsenic in certain cases, especially those marked by a debilitated condition of the system. It is also recommended in *arthritis*, but, when nodosities have not appeared, rhus toxicodendron will prove superior to arsenic for temporary relief, when the latter drug can be continued under the restrictions already pointed out regarding its administration. In order to overcome the diathesis and set the patient on his feet again, it must be borne in mind that something more is needed besides arsenic.

5. When using arsenic in diseases of *the cutaneous system* it is advisable to test the tolerance of the patient by the exhibition of tentative doses for several days, to be followed by large initial doses, which are to be gradually decreased. In the mean time the physician must not neglect the use of purgatives, diuretics, laxatives, and hepatic stimulants, and when given for its general effect, to avoid irritation of the stomach and intestine, the better plan is to administer it along with food, bearing in mind that the solid preparations are best adapted to those cases which are most chronic, and where the lesions are located at distant points. With comparatively few exceptions, diseases of the skin are improved by arsenical preparations in direct proportion to their chronicity; the more chronic the lesion, the more effective will be the treatment. It follows, therefore, that *acute cases* will not be benefited, and in truth they will be aggravated, a conclusion at which one will ordinarily arrive from a study of the pharmacology of the drug.

The pharmacology of arsenic points to its use in all *chronic skin diseases* of a scaly or papular character—as eczema, psoriasis, lichen ruber—and it has also been shown to be especially useful in the treatment of pemphigus and acne; when administered along with bromides, the characteristic *bromide eruption* will be averted. In the case of acne and acne rosacea we occasionally meet with old affections which prove rebellious to treatment, and in such instances it will be advisable to combine the arsenic with small doses of calcium sulphide, to which should be added attention to diet and hygiene, and especially the frequent use of baths, either plain or medicated.

For the treatment of *warts*, arsenic has been used locally with success; it may be applied in the form of a paste, as recommended by Unna; five to ten per cent. of arsenic is added to mercurial ointment, and this is applied to the affected area by means of pieces of linen, when it is said the unhealthy tissue softens and gradually separates from the normal structures. Arsenic is a remedy of no small value for the treatment of *rodent ulcer*, and the more chronic, the more efficient will be the results. It has long been used extensively for the relief of *boils*, the drug being taken internally, but as some of these cases are associated with diabetes, an examination of the urine is necessary to determine the true cause of the eruption. In uncomplicated cases the addition of small doses of calcium sulphide will be found a great improvement over the use of arsenic alone. The combination can be prepared in the form of a tablet triturate, each containing one fiftieth of a grain of arsenious acid and one tenth of a grain of calcium sulphide. Although arsenic has been used as *a depilatory*, the dangers to the integument coupled with the time required make it far less practical than electricity.

For the removal of *epitheliomatous growths* Marsden's paste was at one time a favorite remedy, but is less popular now than formerly with the members of the regular profession. It is prepared as follows: Powdered acacia and arsenious acid, of each an ounce, are combined with five fluidrachms of water, which gives a product in the form of mucilage. The preparation is then painted over a small portion of the affected area, say not more than one inch square, and after a few days the separation of eschar is favored by the application of poultices. Care must be taken to prevent the paste from coming in contact with the healthy skin. In this connection it should be noted that jequirity promises to surpass all other preparations for the local treatment of epithelioma, and it is also especially useful in rodent ulcer.

The formula used by Hebra for the removal of cancerous growths is as follows: Arsenious acid, 15 grains; cinnabar, 3 grains; and emollient ointment, 24 grains. *Cancer* of the uterus is supposed to be favorably affected by these preparations, but it is needless to say that they are a constant source of danger to the healthy tissues, owing to our inability to protect adjacent structures; the treatment is tedious, and, further, there is the possibility of absorption of the poison. For this reason Bartholow prefers chloride of zinc paste, prepared with calomel or starch in the strength of one to six, but this also must be cautiously applied to large surfaces. In cancer of the stomach, however, it has been administered with apparent success, but it must be long continued, and in these cases the safeguards pointed out should not be omitted.

Arsenic has been found of great value in *dental practice*, and the following formula is recommended for pulp devitalization:

℞ Acidi arseniosi .... gr. v;
Morphinæ acetat., }
Creasoti, } .... āā gr. x.
M. Sig.: For topical use.

6. The *hypodermic use* of arsenic has not yet attracted the attention it merits. First used by Radcliffe in 1866 for the relief of a most stubborn case of *chorea*, it has been found practical and particularly useful in the treatment of some *skin diseases*—as psoriasis and various forms of eczema. By this method the drug is introduced directly into the circulation, and, as a consequence, the effects are more immediate and better results are secured from the same dosage. The preparation most suitable for this form of medication will be found in the arseniate of sodium, one tenth grain of which may be introduced into the subcutaneous cellular tissue daily. Of course the same precautions are necessary to prevent toxic symptoms as when exhibited internally, and it will be noted occasionally that patients are more susceptible to the drug when so used, and in these cases the dose must be lessened.

Given in this manner, arsenic is not only useful in obstinate cases of *general chorea*, but in that of a purely local character and in so-called *histrionic spasm*. Charcot has used it with marked benefit in the treatment of *paralysis agitans*, and it is of the first importance for counteracting the development of the disease known as lymphadenoma, a circumstance which will naturally be inferred from the study of its physiological and toxicological effects.

1910 Arch Street.

THE DURATION OF DISEASED CONDITIONS.*

By EDWIN R. MAXSON, M. D., A. M., LL. D.,
SYRACUSE, N. Y.

Disease is a deviation from health, and when relating to mankind it means a deviation of the human system from the standard of health. The degree and nature of the deviation constitute the character of the disease, to which various names have been applied and by which the diseased conditions are generally known.

Diseases may be general or local, contagious or non-contagious, septic or aseptic, depending upon the causes that produce them. And it has been supposed that some diseased conditions are self-limited in duration, and especially some of the contagious diseases, such as rubeola, scarlatina, diphtheria, enteric or typhoid fever, etc.

And, while there may be a tendency in all deviations from the standard of health to run a corresponding course, and continue something near the same time, the cause being the same, it is probable that by far too much has been attributed to this supposed necessary limited duration of all septic and contagious diseases, if no others. For, while a given cause acting upon several persons would be likely, unchecked, to occupy something near a corresponding time, taking into account accidents and difference of constitution, if by any means the septic or contagious influence operating can be neutralized and its poisonous effects suspended, then the struggling system may rally at any shorter period of time and resume a healthy condition. And hence nothing strange has happened, for disease has no entity. The cause and the constitution are the only factors.

A *common cold* is a condition arising from the closing, by the astringency of cold, of the eight millions of exhalants on the surface of the body, retaining an effete matter which contaminates the blood, and, if not relieved, the Schneiderian and bronchial, and in some cases the intestinal, mucous membranes may become congested if not inflamed. Animal heat accumulates in consequence of the suppression of cutaneous exhalation, and thus after the cold stage fever may be a result, attended with bronchitis, if no other complication attends. Often two or three weeks may be required for the system to become restored to a healthy condition, especially if unaided by remedial measures. But if in the incipiency of this diseased condition the feet be placed for a reasonable time in warm water, warm drinks being given, and thus the cutaneous exhalants relaxed, restoring the natural perspiration, instead of two or three weeks, in as many days health is recovered.

Nothing strange has happened. It was only necessary to restore a checked function in this case to shorten the diseased condition; and thus it is that non-contagious, aseptic diseased conditions may generally, by proper early treatment, be materially shortened. How is it about the septic and contagious? Let us see.

Influenza (*la grippe*) is a *septic* if not a contagious disease.

The *poison* which causes this diseased condition having originated, perhaps, in the overflowed regions of China, intensified possibly by exhalations from the marshes and hovels of squalid poverty in Russia, is evidently one of no ordinary malignancy.

Unchecked, this diseased condition may continue as long as an ordinary neglected cold—two or three weeks perhaps—with far more severity and leading to more serious consequences.

But if, in addition to warm drinks, hot foot-baths, mild laxatives, and, for adults, two grains of sulphate of cinchonidine every six hours, as much sulphocarbolate of sodium, or an equivalent of other suitable antiseptic, are given, alternating with the tonic, instead of two or three weeks, in as many days convalescence may be established.

Rubeola and scarlatina are diseased conditions caused by poisons introduced into the system more generally from others, but perhaps not always, as there must have been a first case of all contagious diseases.

In these diseased conditions, the poisons once introduced depress at first; then with febrile action they appear to spend their influence on the cutaneous and mucous membranes with considerable regularity if not interrupted by any treatment.

The duration of the depression, reaction, eruption, and convalescence may generally occupy perhaps ten days as an average, accidental complications varying the time more or less.

---

* Read before the Syracuse Medical Society, February 17, 1891.

If now, in the incipiency of these diseased conditions, in addition to whatever else may be indicated and before the poisons have had time to do their worst in deranging the various functions, an antiseptic be introduced, harmless to the patient but which neutralizes the poisons, is it not reasonable to suppose that the disease will be lighter and of shorter duration? Certainly it is, and complications are much less liable to occur.

The disease is only a condition of the system caused by the poisons. Destroy the poison early, and, if the disease is not aborted, the normal healthy condition is sooner restored. The stages are shorter and less marked, and the average duration is perhaps less than half that of cases in which the poison has to be finally eliminated by the system, as has been generally supposed.

Diphtheria is a contagious disease. The poison introduced into the system, whether derived from persons or from other sources, may run on, if left to do so, eight or ten days before being eliminated and convalescence established.

Then the blood has to be improved by good nourishment and sustaining treatment for some time yet, as was formerly supposed. The duration, then, including convalescence from the diseased condition, might be two or three weeks. Of the real diseased condition, perhaps the average might be ten days, when no paralysis or other alarming complications occur.

But, as the disease is only an effect of the poison on the system, suppose, at an early stage, before the poison has done its worst, that, in addition to tonics—such as sulphate of cinchonidine, tincture of chloride of iron, and whatever else may be indicated, including gargles, warm foot-baths, stimulants, etc.—an antiseptic be given (the sulphocarbolate of sodium or other, harmless to the patient, but which will neutralize the poison), is it not reasonable to suppose that the disease will be lighter and of shorter duration? As the system has less to eliminate, should not a healthy condition be restored in less than half the time required when no antiseptic is given? Most certainly this is the common-sense view, and amply borne out by facts in cases too numerous to mention here.* The same may doubtless prove true in most septic and contagious febrile affections. It is only necessary, in addition to whatever else may be indicated, to know and properly apply, locally and internally, the antiseptics capable of neutralizing the poisons that produce the diseased conditions to cure, antipyretics being rarely required.

The cause being ascertained, and proper antiseptics selected and applied, the *patient*, not the disease, should be treated, as Hippocrates directed, no time being wasted in arriving at a *name* for the disease.

Typhoid or enteric fever is the last diseased condition to which I shall refer on this occasion. And there is, perhaps, scarcely a disease in which the poison, when no serious complications occur, appears to require so definite a period to be eliminated. The average duration or time may be about three weeks.

But, as the poison spends its influence largely on the intestinal glands and mucous membrane, sometimes passing on to ulceration, a much longer time may be required before a healthy normal condition can be restored. And especially may this be the case if it is, as too generally held, that the disease can not "be cut short an hour," and hence can only be conducted through a regular course of about three weeks, as was taught. But, suppose we give from two to four grains to adults, less to children, of the sulphocarbolate of sodium or its equivalent of some other suitable antiseptic, commencing early, alternating with two grains of sulphate of cinchonidine and ten drops of the tincture of chloride of iron, as may be indicated, and that the early intestinal irritation be kept down by warm sinapisms twice a day, all the drinks being toast-water and milk to nourish and warm to favor cutaneous exhalation, is it not reasonable to suppose that, if the disease is not aborted, the system will be restored to its normal healthy condition in less than half the time required when left to run on, because, as has been alleged, "it can't be cut short an hour"? Certainly. And it may be questionable whether we have a moral right, in the present light of medical science, to look on, maintaining that any diseased condition has necessarily a definite or regular time to run. It is a fossil of the past, it appears, and injurious in its consequences on all accounts.

Among the antiseptics for internal use, the sulphocarbolate of sodium, in from two-grain to four-grain doses, dissolved in a teaspoonful of water, every six hours, for adults, may be found very convenient and satisfactory in the diseased conditions named and many others, alternating with such tonics as may be indicated, if any, and proportional doses for children. Listerine, in teaspoonful-doses for adults, in many septic diseased conditions is efficient, safe, and convenient; for children the dose being proportioned to the age. Other antiseptics may be used internally, however, preference being given to such as are harmless to the patient in all cases.

Locally, listerine, eucalyptol, carbolized raw linseed-oil, bichloride of mercury, etc., properly diluted, may be among the best antiseptics.

With all these and many other excellent antiseptics to abort, cut short, and render milder the various contagious and septic diseased conditions, let us not say that "it can't be done," with the fossil idea that any diseased condition has necessarily a definite time to run; for, with all that is here stated or has been gained by antiseptics, we have great reason to be humbled for not having accomplished more. Let us try for it.

Concluding Remarks.

It may be proper to add, in conclusion, that what I published in the *New York Medical Journal*, and reprint, of August 15, 1885, on the abortive treatment of enteric or typhoid and other fevers, including the exanthematous, has been fully confirmed in my practice since that time.

And it is from my experience before and since that time in the treatment of the diseased conditions named and others that I have entirely abandoned the fossil idea that any disease has necessarily a definite time to run; for of all the diseases I have named and others requiring antiseptics, their duration has been cut short at least one half by the addition of antiseptics to the other treatment indicated, as nearly as I can determine. And not only cut short, but rendered of vastly less severity, with fewer fatal results.

---

* See Typhoid or Enteric Fever, with reprint, from the *New York Medical Journal* of August 15, 1885, etc.

This idea of antiseptic medical treatment to abort, cut short, and render milder septic and contagious diseased conditions had its origin with me while with Professor Lister in the Royal Infirmary of Glasgow in 1867. And I have been gratified to know that many leading men abroad, and some in this country, are following along in the same line with similar results. But it should be borne in mind that, to obtain the full benefit in antiseptic medical treatment, it must be commenced with early, no time being squandered in arriving at a name for the disease, the cause and condition of the patient furnishing the indications.

And, further, to secure the best results in these various diseased conditions, the patient should be encouraged, and, as far as consistent, dressed and kept out of bed days, thus securing better sleep nights; antiseptics, together with such other treatment as may be indicated in the incipiency, being commenced with *early*, including an improved cathartic pill at evening; and the drinks absolutely restricted to toast-water, half milk, warm, except at regular meal hours, when warm tea, half milk, with toast, egg, and such other food as may be borne, should be allowed. And in cases in which, from early neglect or other cause, the disease may fail to be cut short, the antiseptic should be continued to moderate the malignancy, with such other treatment as may be indicated to the last.

818 Madison Street.

DESCRIPTION OF A "PELVEOSCOPE."

By HUGO J. LOEBINGER, M. D.

Perfection in every branch of medicine depends largely upon the lesser or greater skill in diagnosis, which, however, principally aided by the numerous advanced technical measures and media of the present, permits access to even the most hidden organs of the interior of the body. Also the extraordinary high degree of perfection attained by the special science of gynæcology, especially the successful performances of the many wonderful operations in this branch, bases itself, in the first place, upon the accuracy of the methods of observation.

This advance dates as well from the time of the introduction of the duckbill speculum by Marion Sims and others as from the bimanual method of examination, for gynæcology is indebted to men like Simpson, Kiwisch, Veit, and others. By means of the last-mentioned method it is nearly always possible to note by touch even the most insignificant variations in the pelvis.

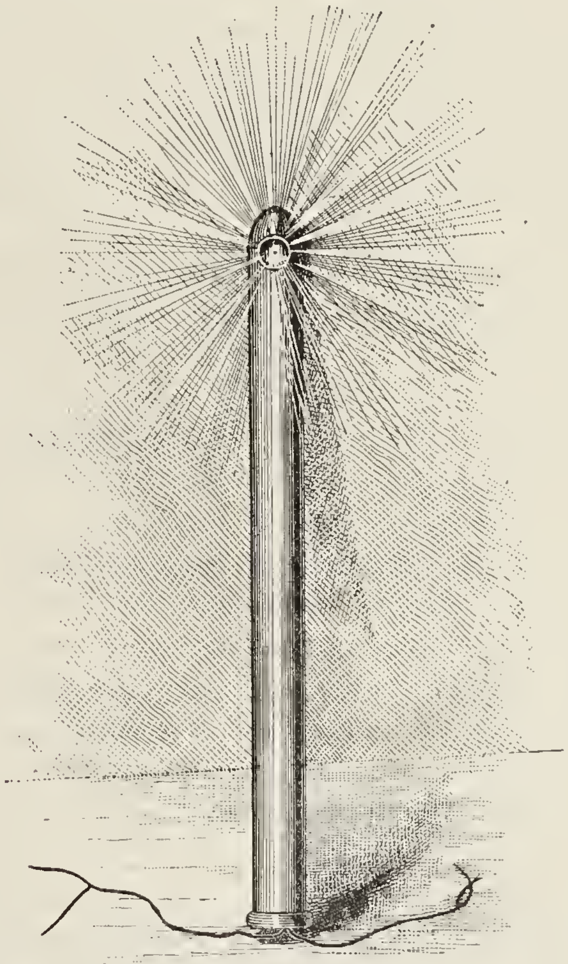
The rectal examination (by means of the entire hand in the chloroform anæsthesia) introduced by Gustav Simon proved a decided progress in the diagnosis of those parts lying behind; and, proficient as they were in most cases, the curative aids were for the present here exhausted. Certainly the desire to supplant the sense of touch in cases where the same proved inadequate by the sense of sight—*i. e.*, the eye—always remained paramount. But not until the antiseptic period was it allowable in questionable and serious cases to enlarge the boundaries of gynæcological diagnosis by means of so-called exploratory laparotomy. Undoubtedly a pronounced advance! And are herewith all diagnostic resources exhausted?

May it not be possible to advocate the use of the modern technique of lighting by means of electricity to successfully make visible the organs of the pelvis?

Illumination of the various portions of the body and organs by means of artificial light was brought out in a new phase by Voltolini during the year 1888, shortly before his death, by means of his transparent apparatus, and given to the medical world at that time. The same is based on the transparency of the human tissues. Upon this principle he constructed an ear, nose, and mouth mirror.

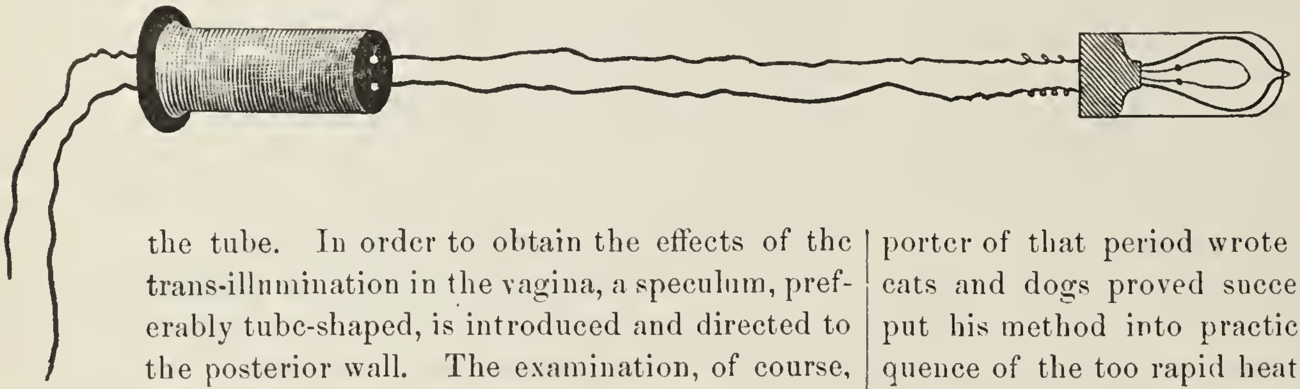
In an instrument thus perfected—as, for instance, that for the first introduced here by Dr. Freudenthal, of New York city, for the illumination of the larynx—the source of light is an electric lamp attached on the outside, the mirror being introduced into the dark pharynx. Such an illumination of the larynx is an important acquisition for diagnosis.

Upon a similar principle my instrument is constructed for the purpose of gynæcological investigations. Into the rectum, after an enema is administered, a hollow, flexible bougie (made of rubber or silk) is inserted. It is not necessary to have the diameter so great that it can not be introduced without the use of anæsthetics.



The instrument is three eighths of an inch wide, including its covering, the width of the lumen being five eighths of an inch. About an inch and a half distant from the rounded point a window with regulator is attached, behind which is an Edison incandescent lamp protected by a small glass globe. Its power is equal to about one candle-light and it has a current of five volts, such as is best used in secondary elements, through an accumulator, supplied, of course, with a rheostat. Heating need not be feared, because of the defective conduction of heat, by reason of the air-shaft in the protection globe.

Following the principles of the Nitze-Leiter apparatus, one can, if necessary, keep up a stream of cold water through the tube. In order to obtain the effects of the trans-illumination in the vagina, a speculum, preferably tube-shaped, is introduced and directed to the posterior wall. The examination, of course, takes place in a dark room.



The interior of the pelvis, with its principal organs in the comparatively thin rows imbedded between the rectum and vagina, becomes, by this means, easily transparent. The ligaments of the uterus, the full-blooded cellular tissue of the pelvis, the Falloppian tubes and ovaries, will shimmer through in a reddish tint or glow; the enlarged or retroflected uterus itself will appear black, as will likewise fibrous and septic tumors of the pelvic organs, or pelvic abscesses, or hæmatocele.

Such an apparatus should surely not meet with any great difficulties in its introduction to practical use—first, because it is so simple to handle; second, provided the possession of a battery be presupposed, it will prove of merely nominal expense. It is perfectly reasonable that such illumination will in many cases aid extensively in the clearness of the diagnosis.

A more minute description of the results obtained therewith, especially pictures of the various diseased types, will follow later.

In conclusion, I would append several historical facts which I naturally gathered, after having finished the construction of my "pelveoscope," in anticipation of the query whether this instrument enjoyed the distinction of novelty. This question may safely be answered affirmatively, with, perhaps, the single modification that the principle of illumination is by no means of modern date.

It may astonish many to hear that Czermak and Gerhardt as early as 1860 used, for the illumination of the larynx, an instrument which differed from Voltolini's only in the nature of its source of light—viz., they used gas.

In 1867 Bruck, a dentist in Breslau (Silesia, the home of Voltolini), constructed an electric illuminating apparatus for the bladder which, notwithstanding its having been perfected then, was, many years later, resuscitated through Leiter, the well-known Vienna instrument-maker (not to be confounded with his endoscopal apparatus).

Cazenave in 1841 had literally invented a like instrument, calling the same "speculum vesicæ."

On the occasion of the first International Medical Congress at Paris the Russian professor, Milliot, of Kiew, submitted his "splanchnoscope." Proceeding upon the method of transparency practiced for the diagnosis of hydrocele, he introduced a narrow glass tube into the rectum or into the stomach, in which were two thin electrodes of a Middeldorpf battery connected with platinum wires, to illuminate, by this means, a portion of the abdominal cavity. The examination was to take place in a darkened room, simply externally.

His experiments—practiced, by the way, only upon animals—were treated by his professional colleagues at the time as curiosities. A reporter of that period wrote as follows: "Experiments on cats and dogs proved successful; however, M. could not put his method into practice on human beings, in consequence of the too rapid heating of the glass cylinder, etc. M.'s tests, interesting as they undoubtedly may be, have therefore no practical value. Perhaps that may prove of importance in the examination of nose and mouth passages, etc. And here we are reminded of an invention of Bruck's called a 'stomatoscope,' which rests on a similar basis."

So wrote a reporter of the *Gazette hebdomadaire* in the year 1867.

1055 Lexington Avenue.

The Treatment of Chronic Disease of the Uterine Appendages.—It is impossible from the nature of the case for one who thinks that a disease has been present and ended in recovery to bring evidence of the fact convincing to the incredulous. By inflammation of the uterine appendages I mean what I think most medical men understand by it. It has long been known that the commonest cause of perimetritis is inflammation of the Falloppian tube; that matting together of tube, ovary, and adjacent parts is very commonly seen on the post-mortem table; and that tender fixed lumps by the side of and behind the uterus, with symptoms such as Mr. Tait has described as those of distention of the tubes, are very often met with during life. Mr. Tait has himself admitted that it is often impossible until the abdomen has been opened to say what these lumps are—whether they contain blood, pus, or serum; whether this is in the tube, the ovary, or in a cavity bounded by adhesions in their neighborhood, and sometimes this latter point can not be determined even after the parts have been removed. These lumps are what I mean by inflammation of the uterine appendages. The great majority of them, if sufficient time and rest be given, end in diminution in size or even practical disappearance of the lumps and cessation of symptoms. I do not doubt that there are some cases which can only be cured by operation; but I believe that the more patient the trial allowed to the *vis medicatrix naturæ*, the fewer will these cases be found to be.—G. Ernest Herman, in a letter to the *Lancet*.

The Deodorization of Iodoform by Creolin.—Dr. Ludwig Váczi, a practitioner in Nagy-Karoly, communicates to the *Medicinish-chirurgische Rundschau* his discovery of the power of creolin to deodorize iodoform. He had prescribed an ointment consisting of one part of creolin, two of iodoform, and twenty-five parts of vaseline. On the following day he was surprised that not only was the usual color of iodoform ointment changed, but that there was no smell of iodoform and only a slight smell of creolin. He points out how important it is in many cases that the presence of iodoform should not be known by its odor, and considers creolin the very best of all deodorizing drugs for the same. It not only does not irritate, but it is also itself a good disinfectant.—*Lancet.*

THE
NEW YORK MEDICAL JOURNAL,
A Weekly Review of Medicine.
Published by
D. Appleton & Co.
Edited by
Frank P. Foster, M. D.

NEW YORK, SATURDAY, APRIL 4, 1891.

GERMAN EXPERIENCE WITH THE KOCH TREATMENT OF TUBERCULOSIS.

The *Ergänzungsband* of the official *Klinisches Jahrbuch* for 1890, edited by Dr. Albert Guttstadt, is entitled *Die Wirksamkeit des Koch'schen Heilmittels gegen Tuberkulose.* It is an octavo volume of 905 pages.

The book consists essentially of the reports of clinical experiments with the remedy during the months of November and December by a number of well-known observers, including Leyden, Gerhardt, Fräntzel, Senator, Olshausen, Guttmann, Bardeleben and Koehler, Lewin, Henoch and Goerne, Jolly, Sonnenburg, von Bergmann, Virchow, Fränkel, Westphal, Lucae, Schweigger, Köhler, Wolff, and Schweninger, of Berlin; Trendelenburg, Schultze, Doutrelepont, Finkler, Koester, and Walb, of Bonn; Biermer, Mikulicz, Ponfick, Fritsch, and Neisser, of Breslau; Ebstein, Orth, and König and Hildebrand, of Göttingen; Mosler, Helferich, and Strübing and Peiper, of Greifswald; von Bramann, Weber, Ackermann, and Schwartze, of Halle; von Esmarch, Quincke, Edlefsen, Heller, and Petersen, of Kiel; Lichtheim, von Hippel, Neumann, Braun, and Schreiber, of Königsberg; and Küster, Marchand, Barth, Mannkopff, and Rumpf, of Marburg. These observers deal with the Koch injections both as a diagnostic test and as a therapeutic measure.

Almost without exception, the various observers regard the Koch injections as not infallible as a diagnostic test of the presence of tubercular disease. Indeed, it does not appear that most of them consider them notably superior in this respect to the means of diagnosis that have long been at general command. As regards their therapeutical value, that matter is dealt with under the heads of tuberculosis of the internal organs and external tuberculosis. The first heading includes pulmonary, laryngeal, meningeal, peritoneal, intestinal, renal, urethral, vesical, testicular, and tubal tubercular disease of various degrees of development and with diverse complications, also pleurisy and pernicious anæmia; the second covers lupus, tubercular disease of the bones, joints, lymph glands, various soft parts, scars, and the sheaths of tendons, tuberculous anal fistula, scrofuloderma, leprosy, rodent ulcer, scrofulous eczema, scrofulous keratitis, and various ear diseases.

We can speak of the results reported only in general terms; to go into details would require more space than we can give to the matter; 1,061 cases of internal tubercular disease are reported upon with more or less particularity, but not with such fullness that the sum of the numbers denoting the results equals the whole number of cases. In 51 cases the result is not given; leaving these out of account, of the 1,061 cases, 13 are reported as cured, 171 as materially improved, 194 as improved, 586 as unimproved, and 46 as having ended fatally. Of pulmonary tuberculosis of all grades there were 932 cases. In 48 of these cases the result is not stated; 10 are reported as having ended in recovery, 147 in decided improvement, 158 in improvement, 533 in no improvement, and 36 in death. There were 708 cases included under the second heading. In 1 case the result is not stated; 15 of the patients are reported as cured, 148 as decidedly improved, 237 as improved, 298 as not improved, and 9 as having died. There were 188 cases of lupus; 5 of the patients are reported as cured, 78 as materially improved, 84 as improved, and 21 as unimproved. In several places the statement is made that certain patients were made worse by the treatment, but the number of them does not appear in the summing up; they simply figure as unimproved.

It must certainly be admitted that this showing is hardly in accord with the fond expectations with which the announcement of the treatment was greeted by the great majority of those who assumed to speak for the medical profession a few months ago. The lesson, however, is a wholesome one, and the authors of the reports, countrymen and admirers of Koch's, are entitled to great credit for the candor and freedom from prejudice with which they have recorded their experience.

SURGICAL INTERFERENCE IN GENERAL PARALYSIS.

A recent issue of the *American Journal of Psychology* contains a number of papers discussing the question of surgical interference in general paralysis. It is stated that to Dr. T. C. Shaw belongs the credit of making the first attempt, surgically, to alter the course of this disease. To his mind the pathological appearances in general paralysis pointed to an irritative, probably inflammatory, process in the upper layers of the convolutions. The theory of the operation was that, by producing an alteration in the existing state of the morbid process, a new and nutritive process might be set up. On the theory of nerve stretching he proposed to stretch the brain, by giving it more space in which to expand, allowing it to relieve itself of the increased arterial pressure shown by the sphygmograph to be one of the early conditions of general paralysis. Shaw considers that the operation in his case was justified by the success attending it, as the patient's general condition improved, although the prominent bulbar symptoms remained. Dr. Batty Tuke's patient also improved for a short time after the operation, but then relapsed. His case was further advanced than Shaw's, but he felt that the results had warranted the operation. The pressure theory, according to Tuke, makes it certain that obstructed lymph may make its way but imperfectly by natural channels to the pia-matral space, and become diffused through the tissues, injuring and displacing cells and fibers and impairing their functional activity. The operation, by permitting a healthy action of the lymphatics and blood-vessels, stays the process of sclerosis.

Rivington, however, considers that the entire mass of pathological evidence is absolutely contradictory of such a theory as this, and that the typical cell degenerations found in general paralysis are not such as may be expected to follow simple excess of fluid pressure, but rather true degenerations, due to acute interstitial anomalies, with no notable differences between the changes through which the cells pass and those in senile atrophy, and that there is no excess of fluid in the first stage, while the second stage is one of extraordinary development of the lymph connective system of the brain with a parallel degeneration and disappearance of nerve elements, the axis cylinders of which are denuded. In the first stage, then, the only one in which an operation would be justifiable, there is no excess of fluid, and in no stage is the fluid of more than secondary importance. The final deductions from a survey of the evidence in these cases are that the pathology upon which the operations were founded is opposed to all the best knowledge on the subject, and that the collation of two cases warrants nothing so clearly as the opinion that little good can be expected from the operation of trephining in general paralysis.

MINOR PARAGRAPHS.

WORD-BLINDNESS WITH UNUSUAL FEATURES.

The following case was reported by Professor Mierzejewski at a recent meeting of the St. Petersburg Society of Psychiatry, and is given in the *Neurologisches Centralblatt* for December 15, 1890. A physician, fifty-six years old, had had syphilis in his youth, and for several years had suffered from chronic nephritis. In January, 1890, he had an attack of uræmic coma, which lasted four or five days. He had since had two other attacks of shorter duration. Some time after the third attack, which occurred last spring, the patient noticed that he had lost the power of reading, although he could distinguish the letters easily, and his sight in general was unchanged. Mierzejewski found the following, on examination: The patient sees each individual letter clearly, but is unable to join the letters into syllables or words. He writes without difficulty and correctly whatever is dictated to him, but can not read what he has written. He can write prescriptions in due form, but can not read them afterward. He can make correct copies without understanding the meaning of the words copied. Numbers, however, he can read and pronounce correctly. The patient's sight is perfect, and the fundus of the eye is normal. There is no disturbance of speech, and the intelligence is unaffected. There is no change in sensation, motion, or the reflexes. After looking through the literature of the subject, Mierzejewski concludes that this is the first case of word-blindness as yet reported in which the ability to distinguish the single letters was retained, and he calls it *cæcitas syllabaris et verbalis, sed non litteralis.*

LINGUAL NEURALGIA OF MALARIAL ORIGIN WITH ULCERATION OF THE TONGUE.

Le Diberder reports, in the *Gazette hebdomadaire de médecine et de chirurgie* for February 21st, two cases of this affection. He maintains that it has never before been described. The first case was that of a woman, sixty-five years old, who had been subject to neuralgia of the face or head for over forty years. When Le Diberder first saw her she had been suffering for six weeks with extreme pain at the tip of the tongue. The tongue was red and deeply fissured throughout its length. The fissures or ulcers had been repeatedly cauterized without benefit. The patient was unable to talk or to eat. Her mouth was constantly full of saliva, which dribbled from her lips day and night. Nevertheless, she was able to sleep at night, and the sleep was not attended with sweating. In view of the previous history of neuralgia and the ill-success of all local medication of the tongue, Le Diberder suspected a malarial taint. He therefore prescribed quinine in full doses. On the tenth day of this treatment he noticed a remission of the pain in the morning, which became more marked day by day. The improvement continued, and at the end of three weeks the patient was entirely cured. The second case was similar, except that the patient could not sleep at night and in the morning was bathed in a profuse perspiration. Treatment with quinine wrought a rapid and complete cure.

DEATH DURING CHLOROFORM ADMINISTRATION.

The late Dr. Parkes reported in the *Journal of the American Medical Association* for February 14th an unfortunate case in which the patient, a healthy girl about eleven years old, died during an operation for removal of a mole from the face performed under chloroform anæsthesia. The operation was practically completed, and no chloroform had been given for at least five minutes. when she was seized with general convulsions. She ceased to breathe and her heart ceased to beat. Dr. Parkes still believed that chloroform was no more dangerous than ether, and accounted for the greater number of deaths during the administration of the former by the statement that a larger number of physicians used chloroform, and implied that death was as likely to happen from one of these anæsthetics as from the other. This case would seem to have been one of heart failure, the usual form of death induced by chloroform narcosis and the form naturally to be expected from a consideration of the physiological results attending its administration. The fact that chloroform is a cardiac depressant is the strongest argument of the surgeon who advocates the use of ether.

THE ADMINISTRATION OF ANÆSTHETICS TO CHILDREN.

Dr. Ness, in a discussion published in the *Glasgow Medical Journal*, reports 1,080 cases in which anæsthetics were employed at the Hospital for Sick Children. In all these cases careful notes were taken, and there were at least a thousand more of which no record was kept. Chloroform was almost invariably used, ether being employed only in exceptional cases. No death has ever occurred during the administration of an anæsthetic. The mode and details of administration are not given.

COLOPROCTOSTOMY.

In the *Deutsche Medizinal-Zeitung* for February 2d there is a brief abstract of a case in which Dr. Ullmann performed an operation for effecting an anastomosis between the colon and the rectum on account of a carcinoma occupying the upper part of the rectum which did not permit of removal. The advantage of this operation over colotomy is said to be that there is none of the soiling of the body and of the resulting noisomeness to both the patient himself and to those about him that are unavoidable after the old operation.

THE JOURNAL OF CUTANEOUS AND GENITO-URINARY DISEASES.

In its April number this well-known journal justly calls attention to the excellence of the pictorial illustrations that have appeared in it, especially during the last two years. Certainly no observant readers of the *Journal* can have failed to admire the lithographic and other drawings and reproductions of photographs with which it has furnished them.

ITEMS, ETC.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported during the two weeks ending March 31, 1891:

DISEASES.	Week ending Mar. 24.		Week ending Mar. 31.	
	Cases.	Deaths.	Cases.	Deaths.
Typhoid fever	7	3	11	4
Scarlet fever	172	19	182	26
Cerebro-spinal meningitis	3	3	3	3
Measles	435	17	370	14
Diphtheria	89	42	82	29
Small-pox	1	0	0	0
Varicella	6	0	6	0
Whooping-cough	3	0	1	0

The Florida State Medical Society.—The eighteenth annual meeting will be held in Pensacola on April 14th, 15th, and 16th, under the presidency of Dr. Thomas P. Gary, of Ocala. Besides the president's annual address, the programme announces an oration by Dr. DeWitt Webb, of St. Augustine, and the following papers: The Leprosy Problem, by Dr. R. P. Daniel, of Jacksonville; Forensic Medicine, by Dr. D. Stuart Lyon, of Deland; The Hygiene of Cities, by Dr. J. P. Wall, of Tampa; Legalized Crime in Florida, by Dr. J. C. Neal, of Lake City; Report on the Treatment of Tuberculosis by Koch's Method, by Dr. Frank Fremont Smith, of St. Augustine; The Therapeutic Value of Oxygen, by Dr. Frank H. Caldwell, of Sanford; Medicine and Medical Men, by Dr. J. F. McKinstry, of Gainesville; Report of Cases treated by Koch's Lymph, by Dr. Sollace Mitchell, of Jacksonville; Recent Advances in Surgery, by Dr. Frank Fremont Smith, of St. Augustine; New Treatment in the Operation for Vesico-vaginal Fistula, by Dr. S. Stringer, of Brooksville; Hypnotism, by Dr. P. J. Stollenwerck, of Jacksonville; The Most Frequent Diseases of Children in Florida, by Dr. R. H. Dean, of Leesburg; and a Report of Cases of Abdominal Diseases and Injuries requiring Operation, by Dr. A. C. Gorgas, U. S. Army, Ft. Barancus.

The Cincinnati Academy of Medicine recently elected officers as follows: President, Dr. Giles S. Mitchell; vice-presidents, Dr. George W. Ryan and Dr. Thaddeus A. Reamy; secretaries, Dr. J. M. French and Dr. E. S. McKee; treasurer, Dr. George E. Jones.

The Cincinnati Obstetrical Society recently elected officers as follows: President, Dr. E. W. Mitchell; vice-president, Dr. Rufus B. Hall; secretaries, Dr. T. P. White and Dr. E. S. McKee; treasurer, Dr. J. L. Cleveland.

State Medical Association Meetings in April.—Of the forty-seven State medical associations whose places and times of meeting have been announced, twelve will hold their annual conventions in the month of April, as follows:

Alabama,	Huntsville,	April 14th.
Arkansas,	Hot Springs,	" 29th.
California,	Sacramento.	" 21st.
Florida,	Pensacola,	" 14th.
Georgia,	Augusta,	" 15th.
Iowa,	Waterloo,	" 15th.
Maryland,	Baltimore,	" 28th.
Mississippi,	Meridian,	" 15th.
Montana,	Helena,	" 24th.
South Carolina,	Charleston,	" 11th.
Tennessee,	Nashville,	" 14th.
Texas,	Waco,	" 28th.

The Harvard Medical Society of New York.—The special order for the meeting to be held this (Saturday) evening is a paper by Dr. George E. Abbott, on Mechanical Dilatation of the Genital Tract before Obstetrical Operations.

The Section in Genito-urinary Surgery of the New York Academy of Medicine.—At the meeting on Thursday evening, the 9th inst., the following papers will be read: An Interesting Case of Congenital Syphilis, by Dr. J. L. Stowell; Report of a Case of Chancre of the Conjunctiva, by Dr. J. A. Andrews; and Gonorrhœa in Women, by Dr. A. F. Currier.

The Harlem Medical Association.—The special order for the meeting of Wednesday evening of this week was a paper by Dr. C. B. Meding, on Conservatism.

Bellevue Hospital Medical College.—The annual conferring of degrees took place in the Carnegie Laboratory on Monday evening, March 30th. After the exercises a reception was held.

The Iowa State Medical Society will hold its fortieth annual meeting in Waterloo on Wednesday, Thursday, and Friday, April 15th, 16th, and 17th, under the presidency of Dr. W. D. Middleton, of Davenport. The work of the meeting will be done in seven sections. The programme contains announcements of forty-nine papers and reports.

The American Academy of Medicine will hold its sixteenth annual meeting in Washington on the 2d, 3d, and 4th of May.

Changes of Address.—Dr. B. Abbott Lindsey, to No. 136 West Forty-fourth St.; Dr. Eric Vondergoltz, to No. 193 Second Avenue.

The late Dr. Charles Reyher, of St. Petersburg.—The death of Dr. Reyher, one of the most eminent surgeons of St. Petersburg, is announced as having taken place on December 30, 1890 (O. S.). He was in the forty-fifth year of his age, and his death was due to an accident met with during a shooting expedition. As a military surgeon he saw service in the Franco-Prussian war, and in the Servian and Russo-Turkish wars of 1876 and 1877. He settled in St. Petersburg in 1878, where he soon achieved great distinction as a surgeon. In that year he contributed to Volkmann's *Sammlung klinischer Vorträge* an essay entitled Die antiseptische Wundbehandlung in der Kriegschirurgie, in which he reported most remarkable and before unparalleled results obtained on the field by the adoption of antiseptic methods. He attended the Washington International Medical Congress in 1887, and his personal acquaintance was made by many American surgeons.

The Death of Dr. Charles T. Parkes, of Chicago, professor of surgery in the Rush Medical College, occurred on March 28th, of pneumonia. He was an attending surgeon at the Presbyterian Hospital and a member of numerous societies. He was well known for his publications regarding gunshot wounds of the abdomen. In 1886 he succeeded the late Dr. Moses Gunn in the treasurership of the trustees of Rush Medical College, and became very influential in the affairs of that institution.

The Death of Dr. Warlomont, of Brussels, the eminent ophthalmologist, is announced.

Society Meetings for the Coming Week:

Monday, *April 6th:* New York Academy of Sciences (Section in Biology); German Medical Society of the City of New York; Morrisania Medical Society (private); Brooklyn Anatomical and Surgical Society (private); Utica Medical Library Association; Boston Society for Medical Observation; St. Albans, Vt., Medical Association (annual); Providence, R. I., Medical Association; Hartford, Conn., Medical Society; Chicago Medical Society (annual).

Tuesday, *April 7th:* New York Obstetrical Society (private); New York Neurological Society; Elmira Academy of Medicine; Buffalo Medical and Surgical Association (annual); Ogdensburgh Medical Association; Medical Societies of the Counties of Broome (quarterly) and Niagara (Lockport—quarterly), N. Y.; Hudson, N. J., (Jersey City), Essex, N. J. (annual—Newark), and Union, N. J. (annual—Elizabeth), County Medical Societies; Androscoggin, Me., County Medical Association (Lewiston); Chittenden, Vt., County Medical Society; Baltimore Academy of Medicine.

Wednesday, *April 8th:* New York Surgical Society; New York Pathological Society; American Microscopical Society of the City of New York; Medical Society of the County of Albany; Tri-states Medical Association (Port Jervis, N. Y.); Philadelphia County Medical Society; Kansas City Ophthalmological and Otological Society.

Thursday, *April 9th:* New York Academy of Medicine (Section in Genito-urinary Surgery); New York Academy of Medicine (Section in Pædiatrics): Society of Medical Jurisprudence and State Medicine; New York Laryngological Society; Medical Societies of the Counties of Cayuga and Fulton (quarterly), N. Y.; Brooklyn Pathological Society; New London, Conn.. County Medical Society (annual); Pathological Society of Philadelphia.

Friday, *April 10th:* New York Academy of Medicine (Section in Neurology); Yorkville Medical Association (private); German Medical Society of Brooklyn; Medical Society of the Town of Saugerties.

Saturday, *April 11th:* Obstetrical Society of Boston (private).

Proceedings of Societies.

NEW YORK ACADEMY OF MEDICINE.

SECTION IN ORTHOPÆDIC SURGERY.

Meeting of January 16, 1891.

Dr. Samuel Ketch in the Chair.

Congenital (Double) Equino-varus, with Exsection of both Tarsi.—Dr. Charles N. Dixon Jones, of Brooklyn, reported a case, and exhibited casts and photographs, also the patient. The following was the history: Kate M., eleven years old. A few weeks after her birth the feet had been tenotomized, and an apparatus worn ever since. On February 29th both feet were operated upon by Phelps's open incision and forcible rectification. In November of the same year a wedge of bone was removed from the cuboid in both feet. She was then treated with water-glass and plaster splints until early in 1889, when she disappeared for several months. On her return there was found to be a considerable relapse, with inversion of the feet and fixation of the joints of the tarsus. On November 29, 1890, the operation of Mr. Davies Colley for resection of the tarsus was performed on both feet. At the end of four weeks the feet were in good position and the wounds were nearly healed. This case had been a very intractable one, and the only one out of a number of cases of club-foot, in the author's experience, where it had been found necessary to resort to tarsal resection.

Resection of the Astragalo-scaphoid Articulation for Aggravated Flat-foot.—The patient and photographs were exhibited by Dr. Jones, who gave the following history: K. K., ten years of age. The deformity caused great suffering. On examination, it was found that the inner side of the right foot in its whole length rested upon the ground. The astragalo-scaphoid joint formed a well-marked prominence. On February 1st Ogston's operation was performed. The plaster splint was continued for eight weeks. She now walked comfortably.

Excision of the Hip for Tubercular Osteitis.—Dr. Jones also reported two cases of this operation. Tillie C., a delicate girl of four years of age, had suffered from the disease for eight months. Owing to high temperature and great pain, it was decided to operate. The diseased bone was removed by a free incision, which gave exit to several ounces of pus. The diseased acetabulum was thoroughly curetted, and an extension apparatus applied. After the operation the patient experienced marked relief, and the temperature remained normal. The first dressing was removed at the end of a week, and the subsequent ones were made about every four days, with the patient under an anæsthetic, and the parts were thoroughly curetted. The patient was now able to run and jump without any apparatus, and there was only an inch shortening.

The second case was that of Annie M., who had had a tubercular coxitis for about a year. She was three years old, but had never walked, and the pain was sufficient to interfere seriously with sleep. There was a fluctuating swelling over the joint. On November 3d a similar operation to that just described was performed, and the wound was treated openly according to the method advocated by Mikulicz. Recovery was rapid and uninterrupted. The speaker felt confident that the frequent erasions of the joint surfaces formed an important element in the termination of the tubercular process.

Dr. V. P. Gibney said he assumed that in the first case the club-foot was probably the result of poliomyelitis, the anterior and posterior tibial muscles being chiefly affected; and that, in the effort to bring down the heel, flat-foot had been produced. He thought that a still further improvement would follow the division of the tendo Achillis. The case seemed to him to be a good illustration of the necessity of continuing the use of protective apparatus for some time after such operations, for the history stated that the patient, while still wearing only a plaster or water-glass splint, passed from observation for some time, and when next seen the plaster had been discontinued and the case had relapsed. The child walked rather tenderly, and the ankles rolled outward. The left foot could not be brought quite up to 90°, and he perceived in it indications of a probable relapse. In such an event he would suggest that the astragalus be removed according to the method of Morton, of Philadelphia. Nothing would be lost by the removal of this bone, because it was really subluxated forward, and the contention that after this operation the malleoli rested upon the os calcis was of no significance, as they rested there before the removal of the astragalus. He had been surprised at the ease with which he could reduce the deformity after getting rid of the astragalus.

Dr. Royal Whitman considered the result obtained in the case of flat-foot a good one, but he did not approve of this class of operations. In this instance a child of ten years had been confined to bed for ten weeks. If the foot had been over-corrected under ether, and placed in a plaster bandage for the same length of time, even without the use of any apparatus, the result should have been equally good, and, with the help of the apparatus and exercises, a very much better result might have been obtained without any cutting operation. Such operations, in his opinion, were unscientific.

Dr. A. B. Judson remarked that the occurrence of flat-foot as a result of infantile paralysis was rather unusual; it more commonly resulted in equino-varus or calcaneo-valgus.

Dr. R. H. Sayre did not agree with Dr. Judson that equino-valgus was rare after poliomyelitis when the anterior tibial muscle happened to be the chief one involved. The child was unable at present to hold the foot in that position in which it was normally held by this muscle. Under these circumstances there was but little doubt that the deformity would recur. He did not believe that there was any such thing as a relapsed club-foot; such cases were simply instances of imperfect cures, in which the patients had been unable to retain the foot in its normal position voluntarily. Division of the tendo Achillis, with extension of the foot for a long time in a corrected position, would have answered in this case without any operation, although he thought the result obtained was one of the best that he had ever seen after an osteotomy for flat-foot. Unless the foot could be brought to an angle of about 120°, locomotion, except with a high sole, was imperfect; yet, in all the cases of removal of the astragalus which he had seen, the point between the astragalus and the tibia prevented the foot going beyond the right angle, and, on this account, he considered it inferior to the other operations. Fitzgerald, of Melbourne, had advocated a method of procedure which might almost be said to consist in reducing the whole tarsus nearly to a pulp by a series of osteotomies, and then molding the foot into the desired position, and holding it there with a plaster bandage. His published results of operations on some very badly deformed feet certainly appeared most excellent. Dr. Jones's exsection of the hip joint had yielded a remarkably beautiful result, and certainly it was better to obtain a joint with such good motion than to endeavor, as many of the foreign surgeons did, to obtain ankylosis.

Dr. Jones said that he considered Dr. Gibney's criticism on his first case a very just one. As to the second case, it was difficult to describe the many difficulties that he had encountered, and he had come to feel that nothing short of the heroic method of Dr. Fitzgerald would ever make it a good foot.

Hydrarthrosis of the Knee Joint.—The Chairman presented a case which he had first seen in 1887. The young man was then in his fifteenth year. The family history showed freedom from rheumatism and joint disease, but there was phthisis on the maternal side. Nearly two years before this time the right knee became swollen, and a year later the ankles also swelled, and shortly afterward the left knee became similarly affected. His general health had always been good, and no cause could be assigned for this condition. Examination showed the right knee to be the seat of a large, doughy swelling; there was no pain on motion, and the movements of the joint were only limited by the mechanical obstacle offered by the swelling itself, and this only in extreme flexion. There was no elevation of temperature, either general or local. By hypodermic puncture a perfectly clear, colorless, syrupy fluid was withdrawn. He was treated first with plaster bandages and afterward with elastic compression, counter-irritation, and systematic massage of the joints. The progress of the case had been slow and variable up to a few months ago, but since then it had been uninterrupted. There were still some fluctuation and enlargement of the right side, but he expected that the patient would ultimately recover completely. The case had been diagnosticated as hydrarthrosis.

Dr. Gibney said that the case was interesting on account of its comparative rarity and the excellent result which had been obtained.

Dr. A. M. Phelps had been accustomed in many of these cases of effusion into the joints to open the joint and wash it out with a 1-to-2,000 solution of mercury bichloride, and he considered that it not only shortened the period of treatment, but was a safe practice and gave equally good results as the more common method of treatment. He had often treated dispensary patients by this method, and, after being in plaster-of-Paris for some time, they had been discharged in three months' time with good result. It was not uncommon to find fibrinous material as well as serum in the joint, and the removal of this along with the serum was beneficial, while the bichloride irrigation tended to excite a healthy inflammation of the synovial membrane, which hastened the process of recovery. We had been led to believe that these tubercular joints were always purulent, but he had had occasion to examine many such joints microscopically and had found the tubercle bacilli frequently present where there was no suppuration in the joint.

The Chairman said that it would be difficult to obtain the consent of most private patients to such an operation in a case like this, where there was so little disability or discomfort, and he thought the operation not only somewhat dangerous in itself, but liable to result, in a tuberculous case, in general infection of the system.

Stiffness of the Joints from Rheumatism.—The Chairman also presented a man, thirty-six years of age, whom he had first seen two days before. He gave a good family history as regarded phthisis, joint disease, and spinal disease, and said that he had enjoyed fair health excepting for several attacks of rheumatism, the first of which had occurred at ten and the second at fourteen years of age. The third attack was severe, occurred ten years ago, and involved only the right ankle. There was no venereal history. Two years and a half ago he was exposed for eight hours at night to wet and cold, and this was followed by pain in the left hip, passing down the side of the leg to the knee and across the small of the back to the right hip. After that he noticed his joints becoming stiff, yet there had been no pain, only a feeling of soreness upon motion. Both hip joints had very little motion, adduction only allowing of the internal malleoli being brought within about thirteen inches of each other. The arms and hands were quite free, but there was slight restriction to the movements of the jaws. The patient stated that he had been examined under ether, and that while he was under the influence of the anæsthetic the motion of the joints was increased.

Dr. R. H. Sayre said that the improvement which the patient had been instrumental in procuring in his own case by constant efforts during the past six months to move the joints suggested an appropriate line of treatment. Slight daily motions of the joints should be made while the patient was immersed in a bath at a temperature of from 110° to 115°. Such massage was more successful when aided by these hot baths or by hot fomentations to the joints. He recalled one patient whose joints were so generally stiffened that she had been lying around almost helpless for three years, who, as a result of this treatment, was now able to walk without a cane and with the motions of the elbows and shoulders very much improved. Such results were by no means exceptional, and he should be quite hopeful of decidedly improving this man's condition in the same way. When the joint was inflamed and tender, massage might render the inflammation sufficiently severe to cause ankylosis, but this man had been free from pain for a long time.

Dr. Gibney heartily approved of the suggestions that had been made, but he nevertheless believed that Dr. Sayre had had a singularly fortunate experience, and that usually these cases were very disappointing.

Dr. Phelps said that if this was a case similar to that of a man exhibited in a museum as "the ossified man," the hips, the vertebræ, and even the jaws would become ankylosed in spite of treatment.

The Chairman said that he had seen a number of these cases, and his experience had been unfortunate. The case should be classified as a rheumatoid arthritis, and this disease terminated in ankylosis. There were times in the course of the affection when there would be temporary amelioration. He did not favor operative procedures in such cases, but he thought the patient might be benefited by a course of massage and baths at the Hot Springs.

The Importance of Thorough Examination in Suspected Pott's Disease.—Dr. R. H. Sayre read a paper on this subject. He said that, although in childhood the signs of Pott's disease were usually so marked as not to be confounded with those of other troubles, in adults, especially in women, there were times when the diagnosis was not clear. In some cases of uterine displacement and ovarian disease the reflex pains, the posture, and the gait might simulate the symptoms of Pott's disease so closely as to be mistaken for them by competent observers. Several such cases had fallen under the writer's notice. In the first case, the history of which the author related, a lady, twenty-six years of age, had received an injury of the right hip, which was followed by severe pains in the back and lower extremities. These pains were worse at night, and were so severe that she consulted a prominent Philadelphia physician. He pronounced the case one of Pott's disease, and applied a leather corset. This made her worse, and there was loss of power in the arms and legs. The jacket was then removed, and she was advised to rest in bed for two or three years, but this advice was not followed. Two prominent New York physicians made the same diagnosis, and various braces, and finally plaster, were applied without benefit. She was still wearing the plaster jacket when she first came to the author. She could then walk only with difficulty; she was bent forward, and every jar caused pain. There was rigidity of the spinal muscles, and she complained of the girdle sensation and of pains in the lower part of the abdomen and down the thighs. The uterus was found to be retroverted and bound down by adhesions. An Alexander's operation, followed by the use of a pessary, faradism, and gymnastics, had restored her to health.

In the second case the patient had had a spinal posterior brace applied by a London surgeon for supposed spinal disease. She had complained of pain in the back and in the lower part of the abdomen. The uterus was retroverted and the ovary prolapsed, and treatment directed to the relief of these conditions soon brought about a cure.

The third patient had worn various kinds of apparatus, and an examination had shown a very slight knuckle in the dorsal region, which was thought to be due to an exaggeration of the physiological curve, from her habitual stooping posture, resulting from the abdominal pain from which she suffered. Her retroversion was corrected with a pessary, and she had since been free from pain.

The last case reported in the paper was that of an anæmic girl with a marked stoop and a projection in the lumbar spine, with pain in the back, abdomen, and legs. She gave a history of dysmenorrhœa, and the uterus was found markedly anteflexed. Tonics and general faradism improved her, and she had been without any support for over a year, without increase of the symptoms of Pott's disease.

In summing up the subject, the writer said that the description of these cases showed that the mistakes in diagnosis had been made by men of large experience, and he had therefore thought it worth while to call attention to the fact that reflex pains from pelvic irritation might easily lead one astray in considering cases of supposed Pott's disease.

Pathological Dislocation of the Hip.—Dr. W. R. Townsend presented a specimen of this condition, which had been removed from an Italian girl fourteen years of age. The head of the femur was very deeply eroded, and was dislocated on to the dorsum ilii. There was marked erosion of the pelvic bones, but no perforation of the pelvis.

Acute Arthritis.—Dr. Townsend also presented a specimen illustrating this affection in an infant of eleven months. There was no known cause for the condition, which had lasted for two weeks prior to admission. There was a large glutcal abscess, and the movements of the hip were somewhat circumscribed. As there were evidences of septicæmia, an operation was performed with a view to securing proper drainage. The child died of exhaustion, and at the autopsy it was found that, although the drainage had been excellent and the granulations appeared healthy, the head of the bone was eroded and the external sinus communicated with the joint capsule. The viscera were perfectly healthy.

Dr. Judson said that the specimen illustrating pathological dislocation of the hip recalled a discussion that had taken place a few years before on the question of the possibility of this dislocation. Dr. March, of Albany, had argued that Dupuytren, Astley Cooper, C. Bell, Brodie, Liston, Fergusson, Miller, Gibson, Carnochan, and a host of other authorities were wrong in considering spontaneous dislocation in hip disease as a frequent occurrence. He had declared that, as purely the result of morbid action unaided by superadded violence, it seldom, or never, took place. He had visited forty pathological museums in all parts of the world, and had failed to find evidences of this lesion. His forcible article in the *Transactions of the American Medical Association*, 1853, had excited great opposition, and Dr. Hayward, of Boston, in his *Surgical Reports*, 1855, said it would require more specimens than would fill forty, or forty thousand, museums to convince him that a certain specimen, which he described, was not the result of spontaneous dislocation. Before this discussion, spontaneous dislocation had been supposed to be a very common incident of hip disease, in spite of the doubts expressed by Baron Larrey, and the statement by Wickham, in 1833, that it was of very rare occurrence. That dislocation was very often simulated when not really present was not generally conceded. Dr. Gibney had exhibited a specimen to the Pathological Society in 1877, in which dislocation had been simulated by an appearance due to the altered direction of the neck of the femur. But that it sometimes did occur was clear enough from the fine specimen in Dr. Townsend's hands. There was another pathological dislocation of the hip that was worth considering from an orthopædic standpoint—*i. e.*, that thought to be produced by distention of the capsule in the synovitis following continued fevers, as set forth by Dr. Keen in the Fifth Toner Lecture in 1877. He had recently examined a convalescent from typhoid fever in whom there were great impairment of motion and a distended capsule. Osteitis was eliminated by the history of the case and by the absence of atrophy and asymmetry of the nates. The patient was warned against undue disturbance of the joint, and recovered without dislocation and without any special treatment. The subject was practically important, because it was generally believed that serious joint diseases not infrequently had their origin in fevers.

Dr. Gibney said that he would like to know whether Dr. Townsend thought the child might have been saved if the head of the bone had been excised. A number of years ago Dr. Yale had read a paper on excision of the hip before the Surgical Society, and, among other conclusions, he had stated that the best antipyretic for septicæmia was excision of the hip.

Dr. Townsend replied that there was marked septicæmia present at the time he had operated and drained the abscess, so that he doubted if the result would have been different had he excised the head of the bone. He thought, however, that an earlier operation would have saved the child's life. He had recently seen in Bellevue Hospital a man suffering from aggravated septicæmia due to absorption cellulitis of the leg, who was so ill that it was feared he would die on the table during the amputation of the thigh; yet, instead of this, the amputation was followed by a very rapid improvement in his general condition.

PHILADELPHIA COUNTY MEDICAL SOCIETY.

Meeting of February 11, 1891.

The President, Dr. John B. Roberts, in the Chair.

The Construction and Adaptation of Spectacle-frames.—Dr. Charles Hermon Thomas read the following paper:

The treatment of ocular defects by means of glasses involves, besides the optical correction, a factor of no less practical importance—their mechanical adjustment. The purpose of the present paper is to direct attention to some of the mechanical aspects of the subject, particularly to the principles involved, and to certain methods of mounting spectacle-glasses.

The results of the most accurate refractive measurements may be entirely vitiated by a faulty position of the correcting glasses; not only so, but new sources of eye-strain may be created by the very means adopted to remove an existing fault. Correcting glasses are remedial agents, just as orthopædic appliances are, and, as such, are powerful for evil as well as good, and hence everything belonging to them falls within the duty of the prescribing physician.

The optical center of a lens is generally that part of the glass which we wish to bring before the pupil, as it and the part of the lens immediately surrounding it are freest from aberrations of all sorts—distort least. Occasionally, however, it may be desirable to displace this point by a definite amount; in any case, we should insist on having the optician carry out our directions as regards the manner of mounting and the position of the glass with the same exactness that he employs in making it of the proper strength.

The purpose of the spectacle-frame is to hold a pair of glasses before the eyes in a definite position and with the least possible annoyance to the wearer. To accomplish this, I devised a plan about thirteen years ago (1878) for the construction of spectacle-bridges, which plan provides especially for a wide range of adaptability and the consequent accurate adaptation of spectacles to individual faces of almost every conceivable form. No account of the principles involved has heretofore been published, so far as is known, although some special forms of the bridge, as originally made under my direction, have come into almost universal use, being known throughout the optical trade under the name saddle-bridge.

Previous to the introduction of this bridge it was not practicable to obtain spectacle-frames suitable for persons with unusual forms of nose or face or with excessively prominent eyes or long lashes. Then, besides the ordinary "regular bridge," there was nothing better in use than the "X-bridge," or the equally unsatisfactory "snake-bridge," in both of which the combined weight of the glasses and frames was often borne directly upon the crest of the nose, besides which they usually failed to place the glasses in the correct position before the eyes. Few could wear either of the latter with comfort, and those who succeeded often did so only by padding them with wrappings of thread, thus making an unsightly cushion at the point of contact with the nose.

The bridge (Fig. 1) under the plan referred to consists of (1) a nose-piece of arched form, of flattened wire and made to conform accurately to the shape of the nose at a definite point of selection, crossing the bridge of the nose at right angles and so resting saddlewise upon it—whence its name. (2) A pair of adjustable return-pieces or arms, to the extremities of which are attached the rims or clasps carrying the glasses. These arms are produced by bending outward upon themselves the limbs of the wire from which the arch of the bridge has been formed, and are given whatever special direction may be required to place the glasses in the desired position before the eyes of the individual wearer.

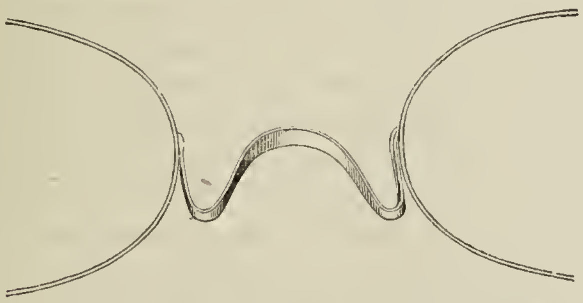


Fig. 1.—Saddle-bridge; typical form (back view).

The bridge consists, then, of an arch and two adjustable arms, which, while fixing the glasses in their proper position before the eye, should furnish as nearly an immovable support as possible.

The bridge of the nose close to its root being the basis of support, the spectacle-bridge must be constructed with reference to this part. The wire of which it is made should be wide at the middle and taper toward each end, so as to make the bridge widest where it takes its bearing on the sensitive part of the crest of the nose. Narrowing the extremities is of special advantage, as it facilitates any necessary bending at that point in the process of adjustment. The sides of the arch should embrace the nose snugly without undue pressure, and extend well back toward the inner canthus, but not far enough to press upon the lacrymal sac. The saddle or arch, as thus described, becomes the fixed support when it rests in its proper position. This position varies considerably in different persons, though on every nose there is usually one best point which should be sought—the point of selection, it may be termed. Unless the arch is adjusted to this particular point, the wearer will be rendered uncomfortable, and be continually shifting his spectacles. A few days' wear may be required to determine this point definitely in a particular case.

The arch of the bridge, when once adapted to the nose, is not to be altered in position during any subsequent regulation or adjustment which may be required; it is to be considered as a definitely fixed support, whose situation is determined, once for all, by the conformation of the wearer's nose. Hence the position which the lenses are to take before the eyes does not directly depend upon the arch, but rather upon the length and direction of the adjustable arms attached to it, by variations in which the glasses may be made to take any required position. The arms are to be made long or short, they may be set high or low, pointed inward or outward, according to the requirements of any given case.

If the eyes are specially prominent, and the bridge of the nose is low, thus causing the lashes to project beyond the level of the nose, the arms must be made relatively long (Fig. 2); or if the bridge of the nose is low or flat, and the eyes are placed relatively high, it may be required to direct the arms perpendicularly upward (Fig. 3); or, again, if the bridge of the nose is prominent and the eyes are sunken, the arms should be shortened, or even reduced to the minimum required for purposes of lateral and vertical adjustment.

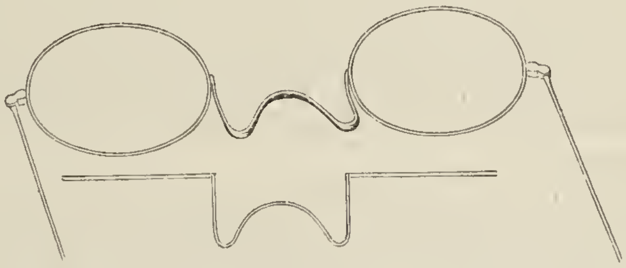


Fig. 2.—Saddle-bridge with horizontal arms; for prominent eyes and long lashes.

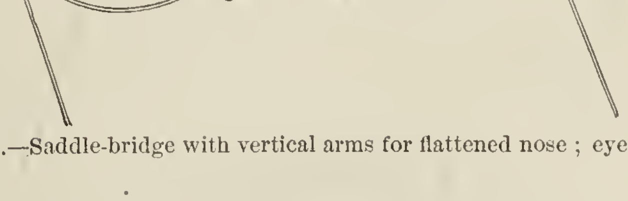


Fig. 3.—Saddle-bridge with vertical arms for flattened nose; eyes high.

The height of the eye as related to the part of the nose on which the arch rests—the point of selection—determines the amount of slant, if any, to be given to the arms. In practice it is found that in by far the larger proportion of cases the arms are nearly horizontal, slanting slightly upward; in exceptional cases they slant downward below the horizontal; and in rare instances it is necessary to give them an almost perpendicular direction upward. The angle which the arms make with the clamp or rim carrying the glasses must vary according to the direction of the arms, in order to keep the plane of the glasses perpendicular to the visual lines. The arm, where it is soldered to the rim, or the clasp of frameless glasses, is slightly bent in an upward direction. Increasing or diminishing these curves changes the position of the glasses vertically, and so compensates for any degree of upward or downward slant of the arms. This may be necessary where, for example, the point of selection of the arch is low down on the nose; the arms must then ascend vertically to raise the glasses to a level with the eyes; but this position of the arms will cause the glasses to assume an approximately horizontal direction—parallel to the visual lines—if the arms meet the rim at or about a right angle, as they usually do; in such a case the arm must be bent so as to join the lens at an oblique angle or even lie in the plane of the lens.

The proper adjustment of a pair of spectacles in ordinary cases is largely determined, as we have seen, by the length and direction of the arms. In special cases, also, as in asymmetry of the face, the compensation required is to be effected by the same means. In some cases the arms may need to be of unequal length. It is of frequent occurrence that the centers of the pupils on the two sides are unequally distant from the center of the arch. When this condition exists it is to be met by varying the direction and, it may be, also the length, of the arms.

It is important, from the point of view of the optician, to note that the principal adaptations of the bridge are preferably to be made extemporaneously and with the patient present. In this way, with a variety of sizes of the typical form at hand, the skillful mechanic is able to produce any particular modification which may be required without specially constructing the frames, even for atypical faces. It is often desirable to take the conformation of the nose at the point of selection. This may conveniently be done with lead wire, and the outline thus obtained may—by "rubbing"—be made a part of the record of the case.

Variations in the size of the lenses employed will also necessitate modifications in the lateral adjustment of the arms. To get the advantages of a large glass in cases where the distance between the eyes is relatively small, the arms will have to be bent inward—made to approach each other. The opposite direction may have to be given them in cases of unusual width of face.

Lateral supports, or clamps, which take their bearing lengthwise on the sides of the nose near the base, as in eye-glasses of the best construction, have occasionally been employed by others in combination with spectacle-frames, but usually in form and by mechanical means not wholly satisfactory.

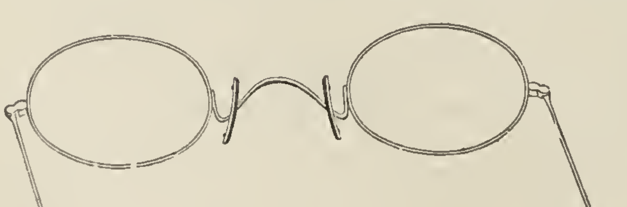


Fig. 4.—Saddle-bridge, with clamps.

I have recently had made by the Fox Optical Company a combination of the eye-glass clamps with the saddle-bridge (Fig. 4), which is neat and simple in construction, and which combines the advantages of both in great degree. The attachment is so made as to preserve the adjustability both of the bridge and the clamps. The special advantage of this combination is that it distributes the pressure over a larger surface, and upon parts better able to sustain it than the arch of the bridge does alone.

The side-pieces, or temples, should be specially adapted to the ear with as much care as the bridge is to the nose in each individual case. They should be hooked around the ears for constant use and be so formed as to retain the bridge at the point of selection on the nose, and thus secure a fixed position of the entire appliance. The curve of temples, as ordinarily made, is of far too great a radius. It takes its bearing behind the ear upon a limited surface, and so is liable to cut; it fails to secure a proper hold to prevent its riding upward, and it often exerts spring-pressure productive of pain and injurious to ears and nose alike.

An adapted temple, designed to fulfill the above indications and obviate these defects, has recently been constructed under my directions, and has borne the test of use so well as to justify its continued regular employment (Fig. 5). The wire of which it is made passes back in a straight line to the top of the ear, at which point it is bent somewhat abruptly downward, and is made to conform accurately to the posterior surface of the conch close to its junction with the head, where it rests in contact with the ear, but without perceptible pressure. Asymmetry in the height of the ears, causing tilting of the frames from the level, is to be met by a compensating adjustment in the temples—*i. e.*, bending the temple upward on the side of the higher or downward on the side of the lower ear—or both—and so dividing the result between the two sides. The glasses should be slightly inclined from the perpendicular, so as to bring the lower edges somewhat nearer the face than the upper, which is to be effected by giving the temples the appropriate angulation at their junction with the hinges when it is impracticable to change the direction of the hinges themselves.

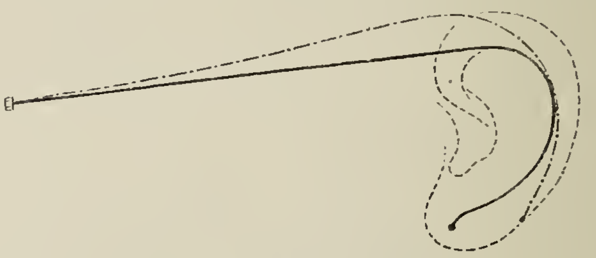


Fig. 5.—Adapted temple.

The material of the frames should usually be gold of a good quality and of a weight as light as is consistent with strength and steadiness. Steel rusts too readily and is not well adapted to the adjustments frequently required—more especially in the temples. Silver is so soft as to be almost worthless. The lenses themselves should usually be as large as the face of the wearer permits: seldom less than 2 × 838 mm. for an adult, and not infrequently as large as 29 × 40 or 30 × 42 mm., in order that the eyes may be well covered in their ordinary lateral movements. Such large lenses are hardly more conspicuous than small ones—especially if frameless glasses be used—because they allow the eye itself to be easily seen. The reflections from the edges of frameless glasses which are so annoying to some persons may be avoided by slightly dulling the polish on the lower edge; the source of this reflected light being usually at or above the level of the eyes, the reflection enters the eye from this edge alone.

The glasses should be worn as close to the eyes as possible without touching the lashes. Occasionally, where the lashes are especially long, with feathery or uneven ends, they should be neatly trimmed with the scissors—a little procedure best practiced when the eyes are closed.

It is also to be borne in mind that the subject has an artistic aspect, and that by giving proper consideration to this phase much can be done to remove the opprobrium which frequently attaches to the wearing of glasses. The neat adjustment of a pair of frameless gold-mounted spectacles is doubtless the best that can be accomplished with spectacles in this respect.

In the foregoing, it will be seen, I have limited myself to a description of no one form of bridge, nor even of a number of special forms, but the effort has been made rather to demonstrate *the mechanical principles involved in the construction and adaptation of spectacle-frames suitable to all the requirements of practice.* By the means proposed it is practicable to secure the correct position of the glasses before the eyes, together with comfort to the wearer and a satisfactory artistic effect, thus fulfilling the three principal indications of spectacle-mounting.

Dr. **Edward Jackson** said that one of the difficulties he had met with in having opticians fit frames, and in making students understand how frames should fit, was in regard to the location of this "point of selection" to which Dr. Thomas had referred. It was not any point arbitrarily chosen, but was, in each case, rigidly determined by the form of the face. To it the traction of the temples constantly tended to bring the bridge. The bridge placed above it was drawn down, or below it was drawn up toward it and came to rest upon it. A point that had recently come to his notice in fitting frames was that the plane of the temples must pass through that part of the surface of the bridge that bore upon the nose. If it passed above or below this it tended to tilt the bridge, so that its edge bore on the nose instead of the flat surface. To effect the proper position it would sometimes be needful to attach the bridge and the joint for the temple, not at opposite extremities of the horizontal diameter of the lens ellipse, but at the extremities of a shorter chord lying above or below this diameter.

Dr. **George M. Gould** wished to speak on one point brought up by Dr. Thomas, and that was the reflection from the edge of rimless glasses. He had had patients who could not wear glasses on account of the annoyance caused by this reflection. Last year, in Knapp's *Archives*, he had described a little device of his friend Dr. Rhoads's by which the edge of the glass was beveled on a plane with the pupil. In this way all reflection was avoided. The only objection was that this exaggerated the reflection to the beholder. In reference to the effects of pressure of the bridge on the nose, he had had a case the week before that brought a new phase of this matter before him. Two months before he had applied glasses to a patient with specific rhinitis. Following this the nose ulcerated near the point of pressure, and several pieces of bone were discharged. He did not think that it was due altogether to misfitting of the frame, but principally to the fact that the skin was so sensitive that the least pressure caused trouble. It, however, had given him the lesson not to apply glasses in specific rhinitis in an acute stage. The whole of Dr. Thomas's paper was a corollary to the great fact that the optician should be an educated mechanic. The optician stood in the same relation to the oculist that the apothecary stood in to the physician. Until the optician learned to take a pride in his profession we should not have well-fitting glasses, unless we were constantly on the watch. We should, therefore, do all that we could to elevate and encourage the dignity of the optician's profession.

Dr. **Thomas** had been glad to hear Dr. Jackson's suggestions in regard to the line of draught and the location of the temples. He thought that there were cases in which this might make a good deal of difference, and it was a point that hitherto he had not taken into account. The bridge had had a widely extended use for a number of years, and the only reason for bringing the subject forward now was that it was not perfectly understood by ophthalmologists and opticians. It was a bridge of wide adaptability, and was capable of being converted into a great variety of special forms, some of which had been shown.

◆

Book Notices.

Transactions of the American Gynæcological Society. Vol. XV, for the Year 1890.

The fifteenth annual meeting, held in Buffalo, had a fair attendance, and the papers read were principally on questions in gynæcology many of which are still far from being satisfactorily solved.

In his address the president, Dr. John R. Reynolds, discussed the ever-interesting subject of marriage and restriction in child-bearing. A high ideal is taken of the married state, which the author holds does imply child-bearing. The desire to nullify this obligation of marriage is held as an all-potent cause of the demand for divorce. Rather unexpectedly, some practical words are uttered on the subjects of anæsthesia in labor and of lactation. Anæsthetics are recommended to be given freely and generously in all stages of labor, if called for.

The knotty subject of extra-uterine pregnancy gave rise to a lengthy and heated discussion. The field seemed pretty well divided between the advocates and the opponents of the use of electricity as a fœticide.

The Question of Ampèrage in the Treatment of Fibroid Tumors by Electricity was the title of a very suggestive paper by Dr. Willis E. Ford. In the discussion which followed, all who took part, with the exception of Dr. Tremaine, of Buffalo, agreed as to the value of galvanism as a "symptomatic" cure of fibroids of the uterus. Some of the speakers cited cases in their own experience in which the growth had totally disappeared.

Dr. Henry T. Byford's paper on Vaginal Fixation of the Stump in Abdominal Hysterectomy, in which a novel and ingenious method of treating the stump was presented, brought out a lively debate.

A suggestive and original paper on Injuries to the Ureters during Labor was presented by Dr. Alexander J. C. Skene.

The subject of Cephalæmatoma Verum Externum was treated of in a scientific and exhaustive paper by Dr. Howard A. Kelly.

Laparotomy for Intrapelvic Pain was the title of a paper presented by Dr. T. A. Ashby. The ground taken was that pelvic pain due to minor lesions, such as minor forms of displacement, chronic inflammation, adhesions, and vascular disturbances impossible of detection without opening the abdomen, obscure lesions of the ovaries not recognizable to the naked eye, justified the operation of laparotomy and the removal of the ovaries. The history of a single case was narrated, which was misleading in that scarcely five months had elapsed since the operation. Dr. Howard A. Kelly struck the right chord when he stated that laparotomy for pelvic pain was "a retrogressive step, carrying us back to the practice of six or eight years ago, when laparotomy was too often, not a last, but a first resort." He made a strong plea for the cultivation of more careful and thorough bimanual examinations, and for the resort to anæsthetics in difficult and doubtful cases. Most of the other speakers who followed took about the same ground.

It is comforting, therefore, to observe the inauguration of a more conservative and scientific spirit.

A number of other very interesting papers were presented, abstracts of which were given in our report of the proceedings. The volume, as usual, is handsomely bound and well printed, and is essential to the library of those physicians who wish to keep abreast with the advances of American gynæcology.

Jahresbericht über die Fortschritte auf dem Gebiete der Geburtshilfe und Gynäkologie. Unter Mitwirkung von Dr. Ahlfeld (Marburg), Dr. Bumm (Würzburg), Dr. Carsten (Berlin), Dr. Döderlein (Leipzig), Dr. Felsenreich (Wien), Dr. Frommel (Erlangen), Dr. Löhlein (Giessen). Dr. C. Ruge (Berlin), Dr. Sänger (Leipzig), Dr. Schwarz (Halle), Dr. Stumpf (München), Dr. Veit (Berlin), Dr. Wiedow (Freiburg). Herausgegeben von Prof. Dr. Richard Frommel in Erlangen. III. Jahrgang. Bericht über das Jahr 1889.

This excellent yearly report has all the elements which such a work should possess. It is well arranged, all articles of any importance appearing during the year are included, and a short criticism is given of the most important ones. To the specialist and general practitioner it is of inestimable value.

New Inventions, etc.

SCISSOR-FORCEPS FOR THE REMOVAL OF ADENOID TISSUE FROM THE VAULT OF THE PHARYNX.

By F. Whitehill Hinkel, A. M., M. D.,

BUFFALO, N. Y.

In the removal of an hypertrophied pharyngeal tonsil, or of supersecreting glandular tissue from the vault of the pharynx, in the adult, I have found Loewenberg's forceps unsatisfactory on account of the small bite of the instrument and its inability readily to penetrate the somewhat hardened tissue. Raynor's instrument is open to the same objection—*i. e.*, the small amount of the tissue situated in the vault of the pharynx that can be included between the blades necessitates repeated cutting. Moreover, I have on one occasion had the sharp point of the unclosed loop forming one blade of this instrument pierce the soft palate during a sudden and unexpected movement of the patient. I have guarded against a repetition of this awkward accident by having the point covered with a little button or knob.

In a decided majority of cases in the adult requiring operations upon the pharyngeal tonsil, the glandular tissue is found arranged in folds lying antero-posteriorly upon the roof of the pharynx, with more or less deep sulci between them. The otherwise excellent adenotome of Delavan I have found unsuited to the removal of these antero-posterior bilobate or trilobate hypertrophies of the pharyngeal tonsil, the tissues not engaging readily in the blades cutting antero-posteriorly. In operations in this region under cocaine anæsthesia, and aided by the rhinoscopic mirror, it is of importance to remove the greatest amount of tissue possible with the fewest introductions of the instrument: for, after the first few bites of the forceps, the free hæmorrhage interferes greatly with exactness of procedure. An instrument that shall embrace more or less completely one of the glandular folds described above, and cut rather than tear it away, will expedite and simplify this somewhat difficult operation. To meet these requirements I have devised an adenoid scissor-forceps that Tiemann & Co. have made for me accurately and beautifully.

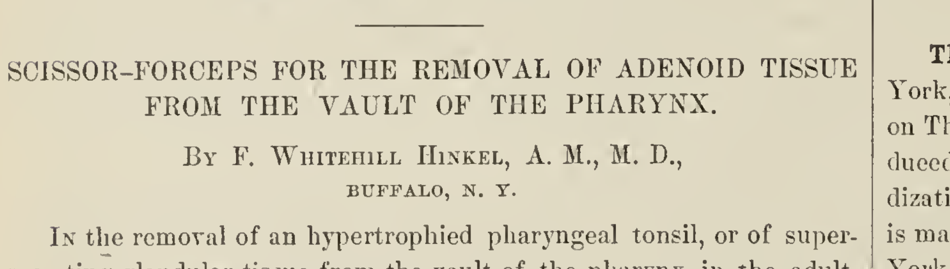


Fig 1.

Fig 2.

Fig. 1 and Fig. 2 show different curves of the instrument. The form shown in Fig. 1 is adapted to the removal of gland tissue lying on the posterior aspect of the vault. The form shown in Fig. 2, smaller and curved vertically at a more acute angle, is better adapted to the removal of tissue attached to the roof of the vault, and directly behind and above the choanæ. One fenestra overlaps the projecting sharp edge of the other when the blades are closed, thus giving it a scissor action. The lateral bite of the instrument I regard as a decided advantage, enabling the operator to remove in some cases an entire lobe of gland tissue, such as described above, with one manipulation. I find this instrument especially adapted to operations upon the adult when operating under cocaine and with illumination. The shallow pharynx of childhood renders difficult the introduction of the scissors unless the soft palate is tied forward after the method of Wales under general anæsthesia, when this instrument will be found often to expedite the removal of the accumulated adenoid tissue. I repeat that it is especially in operations upon the adult, and under cocaine anæsthesia, that I have found these scissors, in my hands, an improvement over any instrument with which I am familiar in precision, rapidity, and ease of manipulation.

Miscellany.

The Continuous-coil Induction Helix.—Dr. A. D. Rockwell, of New York, contributes to the *Medical Record* for February 14th an article on The Different Physiological and Therapeutical Properties of the Induced Currents of Electricity, with Especial Reference to Bipolar Faradization. Speaking of the continuous-coil helix (which, we understand, is made only by the Jerome Kidder Manufacturing Company, of New York, and is fully described in Beard and Rockwell's *Medical and Surgical Electricity*, sixth edition, page 292), Dr. Rockwell says:

Although around the primary coil of an ordinary induction apparatus extra and distinct coils of finer wire up to the number of nine can be wound, the current from each successive coil becomes weaker and weaker, and experience has shown that for all practical purposes there is need for but two helices, or at most three, that yield the primary and secondary induced currents. This apparatus we term the separate-coil apparatus, to distinguish it from another combination of helices, termed the continuous coil, and it is the current from these two distinct coils of the separate-coil apparatus to which reference is always made in the consideration of bipolar faradization. In this paper, however, I shall speak of bipolar faradization in connection only with the continuous-coil helix, the efficiency of which over the other form is very great. While in the ordinary separate-coil machine with which Duchenne carried on his original series of experiments, and with which Apostoli and others practice the bipolar method, we are limited to two currents—the primary induced and the secondary pure induced—we obtain from the continuous apparatus many distinct manifestations of the induction current, four of which, at least, differ so widely in their physical, physiological, and therapeutical properties as to render it a matter of the utmost importance that we appreciate the fact that these currents can not be applied indifferently in practice.

Indeed, let one become but once convinced by personal experiment of the striking difference in the action of these four qualities of current on nerve and muscle, and he will hardly need the demonstration of clinical experience to convince him of their different therapeutical properties. The current from the primary or first induction coil of the continuous-coil apparatus corresponds very closely with the current from the primary coil of the separate or double-coil apparatus. The wire is short and thick, offering very little resistance to the passage of electricity, and so gives forth a current of little tension but large quantity, so called. When applied externally, its appreciable influence is very slight. Its tension is so low that it overcomes with exceeding difficulty the resistance of the skin that must be encountered in all external applications. Its reflex as well as direct influence is therefore very slight, and it only moderately excites cutaneous sensibility.

It acts with considerable chemical power, readily burning steel or iron, as manifested by the bright deflagrating spark given forth. It will electroplate and electrolyze to a degree not attainable with the other induction coils either alone or in combination. The important practical point, however, in connection with this current is the extraordinary increase in energy that is manifested when application is made to parts within the body. When applied to the rectum, the vagina, or the uterus, not only are the contractions pronounced, by a strength of current insufficient to produce any observable effect when applied externally, but may easily be made exceedingly painful. It may be here remarked that the testes also are far more acutely sensitive to this current than to the currents of pure induction.

Far more severe in its influence, however, is the second current of the series—that proceeding from the primary and second coils of the combination. Externally applied, it is comparatively weak, although far stronger than the other: but when applied by the bipolar method to the uterus or vagina, its extraordinary action on motor and sensory parts will hardly be credited without actual demonstration of the fact. It is the easiest thing in the world to demonstrate this fact unwittingly, to the injury of the patient and to the operator's mortification. This is what may very readily occur. An intravaginal or intra-uterine application is being made with the current of tension. The patient complains of an uncomfortable sensation, which may or may not be due to the action of the current, and you shift the slide so as to exchange the current of great for one of lesser tension, which, according to all the experiences of external application, is infinitely weaker. Instantly a shock is occasioned, associated with the acutest pain and the most rigid contractions, that astonishes yourself and terrifies your patient, a mishap which I have known in more than one instance to excite neuralgia and other severe nervous symptoms of a distressing and more or less permanent character.

The advantage of these first two currents of the series over the last two, presently to be described, lies almost wholly in the effects of their internal application, and especially by the bipolar method. Both currents, and especially the current from the combination of the primary and second induction coils, act as powerful muscular tonics when applied internally, and are capable of exciting contractions of the involuntary muscular fibers of the uterus of every degree of severity. For this reason it is invaluable in cases of post-partum hæmorrhage, and must, it seems to me, prove far superior to ergot for its suppression, since it acts instantaneously, and with a force just sufficient to accomplish the object desired.

The New York Academy of Medicine.—The programme for the meeting on Thursday evening of this week included a paper on Lupus, by Dr. Henry G. Piffard; one on Public Baths, by Dr. Simon Baruch; and reports on the Koch treatment of lupus at Mount Sinai and Bellevue Hospitals, by Dr. H. N. Heineman and Dr. H. P. Loomis.

At the next meeting of the Section in Pædiatrics, on Thursday evening, the 9th inst., the subject of The Prevention of Diphtheria will be discussed by the chairman, Dr. Augustus Caillé, and by Dr. J. Lewis Smith, Dr. Joseph D. Bryant, Dr. T. Mitchell Prudden, Mr. John Jasper, Mr. W. P. Prentiss, and Dr. Abraham Jacobi.

At the next meeting of the Section in Neurology, on Friday evening, the 10th inst., Dr. Charles K. Mills, of Philadelphia, is to read a paper on Ophthalmoplegia from Gross Lesions, and Dr. B. Sachs one on Syphilis of the Central Nervous System.

At the next meeting of the Section in General Surgery, on Monday evening, the 13th inst., Dr. S. E. Milliken will read a paper on The Treatment of Hernia in Children by means of the Hank Truss, and Dr. J. William White, of Philadelphia, will read a paper on The Curative Effect of Operations *per se*.

Ergotole in Placenta Prævia.—Dr. William E. Wysham, of Catonsville, Md., writes as follows: "In a case of placenta prævia with terrific flooding, when the fluid extract of ergot could not be retained by the stomach, 'ergotole'—a most concentrated and efficient preparation of ergot, manufactured by Sharp & Dohme, of Baltimore—was used with the greatest satisfaction, and I am particularly pleased with it. I administered ten minims hypodermically, and it acted magically. I think that the profession should be made acquainted with its valuable properties, as I consider it the duty of every physician to do all in his power to make known a remedy which he has seen save human lives, as the 'ergotole' certainly did in this frightful case of flooding. I have used it in other cases when the fluid extract could not be retained by the stomach, and I regard it as a most valuable addition to therapeutics. It is the most satisfactory preparation I have ever used in a practice of more than forty-two years."

The Parkin Prize of the Royal College of Physicians of Edinburgh.—The council of the college makes the following announcement: In terms of the bequest made to the Royal College of Physicians of Edinburgh by the late Dr. John Parkin, fellow of the college, a prize is hereby offered for the best essay on The Curative Effects of Carbonic-acid Gas or other Forms of Carbon in Cholera, the different forms of Fever, and other Diseases. The prize is of the value of one hundred pounds sterling, and is open to competitors of all nations. Essays intended for competition, which must be written in the English language, to be received by the secretary not later than December 31, 1892. Each essay must bear a motto, and be accompanied by a sealed envelope bearing the same motto outside and the author's name inside. The successful candidate must publish his essay at his own expense, and present a printed copy of it to the college within the space of three months after the adjudication of the prize.

Mortality in Cities in the United States.—The following table represents the mortality in the cities named, as reported to Dr. John B. Hamilton, Surgeon-General of the Marine-Hospital Service, and published in the Abstract of Sanitary Reports for March 27th:

CITIES.	Week ending—	Population, U. S. Census of 1890.	Total deaths from all causes.	DEATHS FROM—										
				Phthisis pulmonalis.	Yellow fever.	Small-pox.	Varioloid.	Varicella.	Typhus fever.	Enteric fever.	Scarlet fever.	Diphtheria.	Measles.	Whooping-cough.
New York, N. Y.	Mar. 21.	1,513,501	840	102	..	..	..	..	..	1	21	29	16	13
Chicago, Ill.	Mar. 21.	1,099,133	804	46	..	..	..	..	..	18	15	23	12	6
Philadelphia, Pa.	Mar. 14.	1,046,964	469	58	..	..	..	..	..	25	4	11	..	3
Brooklyn, N. Y.	Mar. 21.	806,343	370	42	..	..	..	..	..	3	10	9	5	4
St. Louis, Mo.	Mar. 14.	460,357	....	....	..	..	..	..	..	2	..	5	3	....
Boston, Mass.	Mar. 21.	448,477	170	16	..	..	..	..	..	2	3	2	..	....
Baltimore, Md.	Mar. 21.	434,439	201	24	..	..	..	..	..	1	2	6	..	3
San Francisco, Cal.	Mar. 14.	298.997	143	24	..	..	..	..	..	3	..	14	..	1
Cincinnati, Ohio	Mar. 21.	296,908	133	17	..	..	..	..	..	5	1	3	..	....
Cleveland, Ohio	Mar. 7.	261,546	98	11	..	..	..	..	..	3	2	2	1	1
Cleveland, Ohio	Mar. 14.	261,546	85	6	..	..	..	..	..	2	1	2	1	2
New Orleans, La.	Feb. 28.	241,995	116	9	..	..	..	..	..	..	..	..	1	1
New Orleans, La.	Mar. 7.	241,995	137	16	..	..	..	..	..	..	..	..	5	....
New Orleans, La.	Mar. 14.	241,995	116	13	..	..	..	..	..	..	..	1	2	....
Washington, D. C.	Mar. 14.	230,392	120	13	..	..	..	..	..	2	1	4	4	1
Detroit, Mich.	Mar. 21.	205,669	84	....	..	..	..	..	..	..	..	14	1	1
Milwaukee, Wis.	Mar. 14.	204,150	84	8	..	..	..	..	..	2	1	8	3	....
Milwaukee, Wis.	Mar. 21.	204,150	85	8	..	..	..	..	..	1	..	2	..	1
Minneapolis, Minn.	Mar. 21.	164,738	73	....	..	..	..	..	..	..	..	2	1	2
Rochester, N. Y.	Mar. 21.	138,327	32	....	..	..	..	..	..	..	..	..	..	....
Kansas City, Mo.	Mar. 21.	132,416	18	3	..	..	..	..	..	..	..	..	..	....
Providence, R. I.	Mar. 21.	132,043	49	....	..	..	..	..	..	1	1	2	..	....
Indianapolis, Ind.	Mar. 20.	107,445	51	7	..	..	..	..	..	..	1	4	..	2
Toledo, Ohio	Mar. 20.	82,652	26	....	..	..	..	..	..	..	..	1	..	....
Richmond, Va.	Mar. 14.	80,838	48	8	..	..	..	..	..	..	..	1	..	....
Richmond, Va.	Mar. 21.	80,838	33	3	..	..	..	..	..	2	..	..	..	....
Nashville, Tenn	Mar. 21.	76,309	45	....	..	..	..	..	..	1	..	..	2	....
Fall River, Mass.	Mar. 21.	74,398	29	1	..	..	..	..	..	..	..	..	..	....
Charleston, S. C.	Mar. 14.	54,592	30	9	..	..	..	..	..	..	..	..	..	....
Charleston, S. C.	Mar. 21.	54,592	36	3	..	..	..	..	..	..	..	..	1	....
Lynn, Mass.	Mar. 21.	....	24	3	..	..	..	..	..	..	..	..	..	1
Portland, Me.	Mar. 21.	36.608	9	....	..	..	..	..	..	..	..	..	..	....
Binghamton, N Y.	Mar. 21.	35,093	16	2	..	..	..	..	..	2	..	..	..	....
Yonkers, N. Y.	Mar. 20.	31,945	6	1	..	..	..	..	..	..	..	2	..	....
Mobile, Ala.	Mar. 21.	....	11	2	..	..	..	..	..	..	..	..	..	....
Galveston, Texas	Mar. 6.	29,118	9	....	..	..	..	..	..	..	..	..	..	....
Auburn, N. Y	Mar. 21.	25,887	15	4	..	..	..	..	..	..	..	..	..	....
Newport, R. I.	Mar. 12.	19,499	11	....	..	..	..	..	..	..	..	..	..	....
San Diego, Cal.	Mar. 14.	16,153	6	....	..	..	..	..	..	..	..	..	..	....
Pensacola, Fla.	Mar. 14.	11,751	7	1	..	..	..	..	..	1	..	..	..	....

MEDICO-LEGAL NOTES.

By Henry A. Riley, Esq., of the New York Bar.

The Legal Aspects of Hypnotism.—A writer in the Edinburgh *Juridical Review*, on the Legal Aspects of Hypnotism, recently said: "Roughly classified, the chief problems, from a legal point of view, appear to be: (1) The possible undermining of the physical and mental health of the subject by frequent hypnotation; (2) the possibility of inducing the subject in the hypnotic state to sign documents, enter on obligations, etc., without the exercise of free will; (3) the likelihood of crimes, such as robbery and rape, being committed on a subject in the hypnotic state, of the actual performance of which the subject would afterward either have no consciousness, or, if suspecting the perpetrator, would make a false statement in order to screen him; (4) the inducing of the subject to commit crimes in a waking state at the instigation of the operator, and in circumstances allowing the operator ample time to get out of the way; (5) the possibility of tampering with witnesses in so far as subjects may be made to fancy they have actually seen events suggested by the operator, and to describe them in very full detail; (6) an indirect danger of real criminals pretending to have been acting under the influence of hypnotism, of women accusing perfectly innocent persons of having hypnotized and ravished them, and of pretended hypnotism in many other ways being made an excuse for crimes or for blackmail.

"Of all, or nearly all, these enumerated dangers there are actual illustrations in the French and German works on the subject, and in the articles scattered up and down medical and scientific reviews and magazines."

An interesting account of the serious results of an experiment in hypnotizing a person was given in this Journal in the issue for March 14th. On the other hand, the daily papers narrate the entire success attending the effort to hypnotize two intemperate brothers in Nevada. The operator is said to have kept one of them for several hours under the hypnotic influence, and, when he was restored to consciousness, he was told to go and drink no more. The admonition was effective. He could not drink, though he made a vigorous effort to do so. The liquor acted on him like an emetic. It is said that this happened some six weeks ago and that he has not tasted a drop since. The younger brother was then taken to the operator and the same result was produced. So intense became the dislike for liquor that he could not be induced to touch it.

If the newspaper reports of this case are reliable, a new field is opened for hypnotic effort, and the temperance people may be expected to become ardent believers in the strange influence.

A Question of Legitimacy.—In a recent case in North Carolina the question of the legitimacy of a child born in wedlock was up for consideration, and the Court said that the old maxim, *pater est quem nuptiæ demonstrant*, was construed much less strictly now than in former times. It used to be the rule that no opposing evidence would be admitted if the husband was not impotent and could have had access to the wife. In the case at bar, however, there was evidence proving the non-access of the husband, and, to support, it evidence was allowed showing how the mother was treated by a man at whose house she was living at the time of and before the birth of the child.

The Insane Poor and Police Matrons Bills.—Two bills in which the profession and the public at large are interested have just become laws by the signature of Governor Hill. The first is the bill appropriating $454,850 for the State care of the insane poor. This money is to be used in erecting, furnishing, and equipping new buildings which will be needed at the asylums in Utica, Hudson, Middletown, Buffalo, and Binghamton. The other bill is known as the Police Matrons bill, and makes compulsory the appointment of matrons at the police stations in cities of 25,000 inhabitants and over. It also provides for the separate confinement of female prisoners. The Governor says: "From correspondence which I have had with the mayors of cities of the State I am convinced that the only way to secure the wholesome results aimed at in the present law is to make its provisions mandatory. Although in a few cities, including my own city of Elmira, police matrons have been voluntarily appointed and are giving general satisfaction, in most cities no appropriations have been made for carrying out the provisions of the act."

In the Senate a bill has just been passed making the union legal between the College of Physicians and Surgeons and Columbia College.

The Paternity of Twins.—An English law journal contains the following paragraph: "A curious plea was put on record in a case of seduction which came before the Court of Appeals this week. The action was by the father of a girl for damages for the loss of her services owing to her having been seduced by the defendant and having given birth to twins. The defendant, besides denying the seduction, further pleaded that he was not the father of the twins, 'or either of them.' It is needless to say that this plea caused considerable merriment in Court."

The Right of Burial.—The famous case on the right of burial found in 4 Bradf. Surr. Rep. settled the law on the subject for this State, and the exhaustive essay of Mr. Ruggles, the referee in that case, is one of the most learned treatises to be found in any law book. The principle of that case has just been affirmed in an Indiana case, where it was held that the custody of a corpse and the right of burial belonged to the next of kin, not to the executor or administrator, that the courts have power to protect the next of kin in the exercise of their right, and that undertakers who contract with parents to keep safely the body of their deceased child until they should be ready to inter the same are liable on breach of such contract to damages for mental anguish caused thereby. The Indiana courts have adopted the general rule that distress of mind caused by the wrongful act of a person is good ground for a verdict of damages, and have applied the rule to cases where telegrams mentioning sickness and death have not been delivered as well as to cases like the above-mentioned.

To Contributors and Correspondents.—*The attention of all who purpose favoring us with communications is respectfully called to the following:*

Authors of articles intended for publication under the head of "original contributions" are respectfully informed that, in accepting such articles, we always do so with the understanding that the following conditions are to be observed: (1) when a manuscript is sent to this journal, a similar manuscript or any abstract thereof must not be or have been sent to any other periodical, unless we are specially notified of the fact at the time the article is sent to us; (2) accepted articles are subject to the customary rules of editorial revision, and will be published as promptly as our other engagements will admit of—we can not engage to publish an article in any specified issue; (3) any conditions which an author wishes complied with must be distinctly stated in a communication accompanying the manuscript, and no new conditions can be considered after the manuscript has been put into the type-setters' hands. We are often constrained to decline articles which, although they may be creditable to their authors, are not suitable for publication in this journal, either because they are too long, or are loaded with tabular matter or prolix histories of cases, or deal with subjects of little interest to the medical profession at large. We can not enter into any correspondence concerning our reasons for declining an article.

All letters, whether intended for publication or not, must contain the writer's name and address, not necessarily for publication. No attention will be paid to anonymous communications. Hereafter, correspondents asking for information that we are capable of giving, and that can properly be given in this journal, will be answered by number, a private communication being previously sent to each correspondent informing him under what number the answer to his note is to be looked for. All communications not intended for publication under the author's name are treated as strictly confidential. We can not give advice to laymen as to particular cases or recommend individual practitioners.

Secretaries of medical societies will confer a favor by keeping us informed of the dates of their societies' regular meetings. Brief notifications of matters that are expected to come up at particular meetings will be inserted when they are received in time.

Newspapers and other publications containing matter which the person sending them desires to bring to our notice should be marked. Members of the profession who send us information of matters of interest to our readers will be considered as doing them and us a favor, and, if the space at our command admits of it, we shall take pleasure in inserting the substance of such communications.

All communications intended for the editor should be addressed to him in care of the publishers.

All communications relating to the business of the journal should be addressed to the publishers.

THE NEW YORK MEDICAL JOURNAL, April 11, 1891.

Original Communications.

SOME CUTANEOUS ERUPTIONS
APPEARING UNDER PLASTER-OF-PARIS DRESSINGS.

By GEORGE T. ELLIOT, M.D.,
VISITING DERMATOLOGIST TO DEMILT DISPENSARY AND
THE NEW YORK INFANT ASYLUM;
ASSISTANT VISITING PHYSICIAN, NEW YORK SKIN AND CANCER HOSPITAL, ETC.

Case I. *Favus of the Body existing coincidently with an Eczema under a Plaster-of-Paris dressing.*—Annie H., three years of age, was seen by me April 16, 1890. She had been for some time under treatment for tubercular disease of the hip joint. On April 1st she is said to have had an attack of varicella. A few days later, and while the crusts resulting from the eruption were still present, a plaster-of-Paris dressing was applied to the right lower extremity and extended upward over the abdomen and back as high as the waist. As far as could be ascertained, for I did not see this eruption, the lesions consisted of a few discrete vesicles distributed here and there over the portions of the body afterward covered by the dressing, but not anywhere else. The child is also said not to have had at the time any systemic symptoms. The plaster splint was removed on the 15th of April, attention having been called to it by a most peculiar offensive odor which emanated from it, and the whole surface beneath was found to be the seat of a diffuse eczematous eruption. The patient was brought to me the next day and the following appearances were observed:

The child was quite well nourished, its functional health good. No traces of the eruption, which had been held to be varicella, were present on any portion of the body, nor were there any pits which could be attributed to that disease, nor any lesions or crusts anywhere except where the plaster dressing had been. The cutaneous changes which did exist were limited accurately to the surfaces which had been covered by the plaster, being also diffuse and uniform over them. It was in character a most typical eczema, weeping profusely in portions, crusting in others, again consisting of innumerable small vesicles and papulo-vesicles closely aggregated together, these various forms of lesions occurring without order or arrangement over the affected portions of the skin.

In addition to these clinical symptoms there were others, however, which could easily have been passed over if the child had not been carefully examined. They were found on the abdomen, anterior surface of the thigh, and upper two thirds of the leg, seated as it were upon the eczematous surface and represented by groups of from three to ten or more sulphur-yellow crusts, varying in size from a pin-head to a small pea. Single and discrete lesions, similar to these in character, were also distributed here and there and on the thigh and leg; the catarrhal exudation in drying had bound together a number of groups of these, so that they seemed to be a part of the eczematous crust. On removing one of the discrete lesions, or one taken from one of the groups, they were found to occupy a cup-shaped depression in the skin, to be smooth, rounded convexly on their under surfaces, and composed of a sulphur yellow, mealy substance. Examination of portions with the microscope showed abundant favus spores and mycelia.

It would have been exceedingly interesting, if it had been possible, to determine the exact nature of the eruption called "varicella," which had been present at the time the plaster was applied. I did not, however, see the case at the time, and the description given of the lesions was very unsatisfactory, so that, though their limitation and localization allowed chicken-pox to be excluded, yet the facts obtained by questioning were not sufficient to demonstrate that they belonged to favus. Possibly they did, and they may have been a first manifestation of the infection, for favus on non-hairy surfaces often begins as a red patch surrounded by a row of small vesicles, only later the existence of the scutulum being observed,* and also during the first stage of the disease and before the scutulum can be seen there may be an eruption of discrete pustules on the affected surface.† Symptoms indicative of beginning favus may thus have been present in this case, but, not having seen them myself, I would not say so positively, though inclined to the belief that these first lesions were in all probability premonitory of that disease. It is, however, also possible that they were discrete eczematous lesions, but, for the reasons given for favus, it is not possible to say so positively, though I doubt that they were.

In the next case, also one of favus developing under plaster of Paris, the only lesions present were those of that disease, it being uncomplicated by any eczema or other affection.

Case II.—Beauregard B., aged three, was sent to me on October 27, 1890. Three weeks previously a plaster-of-Paris dressing had been applied, and when removed on the above date the following lesions were observed: On the abdomen, about midway between the umbilicus and the pubis, there were two ring-shaped lesions of about the size of a two-cent piece. They were close together, and each consisted of a smooth, apparently healthy center, bounded by a slightly elevated erythematous border, about a quarter of an inch broad, on which were a few scales and small crusts. An entirely similar lesion was situated also on the left thigh over the trochanter major. The whole aspect of these rings was that of a tinea circinata, only there was no scaliness of their centers. Near the inclosing erythematous margin of the one on the hip, however, there were found six pinhead-sized crusts, sulphur-yellow in color, and seated in a cup-like depression in the skin and having all the characteristics of a favus scutulum. In one of the rings on the abdomen one entirely identical scutulum was found, but in the other there was as yet no visible trace of a similar formation. Under the microscope portions of the scutula were seen to be composed of the favus fungus, but in scales removed from the erythematous rings surrounding them only spores were seen, and they very few in number.

In this case we have the typical mode of development of favus on non-hairy surfaces; beginning as "a round, red, scaly patch, which develops into a circle with a paler, scaly center and a red elevated margin, smooth, papular, or vesicular."‡ Sometimes several concentric circles form around a central favus cup, or a gyrate pattern may result from the coalescence of several circles, or, no crusts forming, the circles develop to a varying degree and then disappear spontaneously. From the description given by Crocker it can be seen that the lesions in this case, at the time they were seen, possessed the characteristics mentioned, except that their centers were not scaly, and that not a single, but several scutula had developed in one ring.

---

* Von Ziemssen, *Handbuch d. Hautkrankheiten.*

† Brocq, *Traitement des maladies de la peau*, etc. Paris, 1890.

‡ Crocker, R., *Diseases of the Skin*, 1888.

The occurrence of favus on non-hairy surfaces is not so very uncommon, however, that its clinical characteristics need to be dealt with extensively in this article. These two cases, therefore, have been reported, not on account of the rarity of the disease on other regions than on the scalp, but on account of the circumstances under which they developed and for the reason that they can serve as a text for the consideration of some cutaneous eruptions which arise and occur beneath plaster-of-Paris dressings.

It has been my good fortune to have had under my care during the last year a number of cases of disease of the skin which had appeared on patients who were being treated with plaster of Paris for some spinal, joint, or other disease, and peculiarities in their clinical symptoms, course, and history, as well as the fact that, as far as I am aware of, they have not as yet been carefully described, have led me to embody here the results of the observations made upon them by myself.

There have been in all some eighteen cases which have been studied by me. Two of these were favus, one a most extensive tinea circinata, and the remainder eczema. They occurred in children of various ages and most variously affected. Some of the patients were anæmic and debilitated, others in very fair physical health, some were functionally disordered, and others in quite normal condition, the systemic disturbances existing in conjunction with the joint or other disease for which they were being treated. The presence of the eruption was often noted only after removal of the plaster dressing, for the purpose of examining the joint or other affected portion of the body or for its renewal, but frequently attention was called to it and some cutaneous lesion was suspected, owing to a most peculiar and offensive odor emanating from the plaster. Though the skin disease was present, yet the child had not complained of any sensation of discomfort or of itching; the parents had noticed nothing. This was not always the case, however, for occasionally the children had become restless and suffered greatly from the itching, which they could not relieve by scratching, and in this way the existence of a cutaneous affection was revealed.

These cases of eczema, when seen by me, were of all grades of intensity and extent. The disease was limited in some to a few patches or lesions distributed here and there, while in others a more or less large territory had become implicated, or again the entire surface was diffusely and uniformly occupied by the eruption. Whichever of these degrees of intensity existed, however, it was a noteworthy and important fact that the eruption was strictly limited to the surface which had been covered by the plaster dressing. Occasionally, however, but then only in the severest grades of intensity of the process, a slight progression beyond the borders of the plaster was noticed. Yet this was never to any great extent, and usually consisted of only a few lesions or small patches.

It was possible to divide these cases of eczema, according to their degree of severity, into three classes, in each of which the clinical symptoms and manifestations differed to a considerable extent. When the eruption had existed only a short time and was in its early stages, there were found on the surface which had been covered by plaster a few or many small discrete patches, varying in size from a small pea to a finger nail or a nickel. They were round or oval in shape, or crescentic, or representing some segment of a circle, or not infrequently circinate, and then consisting of a center apparently normal, bounded by a narrow, slightly elevated, red, scaly, or weeping border, and often bearing a strong resemblance to tinea circinata. No traces of the trichophyton were ever found by me, however, in the scales coming from these lesions. The patches were very superficial, their base neither thickened nor swollen, and their outlines were sharply defined, though irregular. In color they were red, and by pressure they could be entirely effaced. Many were simply squamous and covered with a few thin epidermic scales, but on others the epidermis had a loosened, cracked, and fissured appearance, or the superficies of the lesion only bore a few squamæ, while around the periphery the epidermis was ragged and lifted up from the rete. A few weeping points were seen on other lesions, or the periphery of a patch would be eroded and moist, or the entire surface would be denuded of epidermis and profusely weeping. Vesicles or papules or any other lesions than those mentioned were not seen in the early cases. The subjective sensations were only slight, there being occasionally a slight feeling of itching and discomfort, but nothing else. In these early cases no evidences of the disease were ever seen beyond the edges of the dressing.

When a patient was so treated that the natural course of the process could be observed and the development of the lesions noted, it could be seen that the growth of a patch took place by gradual peripheral extension of the redness and loosening and lifting up of the epidermis at its edges. This extension might be uniform all around, or, when the lesion had reached a certain size, involution of a portion of the periphery or of the center began, the result in the former case being a crescentic lesion or one representing some segment of a circle, or in the latter one circinate in shape. During the peripheral enlargement of a patch it might meet with others and coalesce with them, in this way forming more or less large, irregularly-shaped lesions. In no case did growth of a patch take place by the appearance of papules and vesicles around the periphery and their subsequent fusion together. The transformation of a dry, scaly patch into one slightly moist, or into one with an eroded border, or one entirely denuded of epidermis and profusely weeping, was also observed.

The cases which represented somewhat higher degrees of intensity, and which may be said to have constituted the second class, were to some extent in their clinical symptomatology similar to the ones just described, but there were, in addition to the lesions found in these latter, others bearing no resemblance to them, although also eczematous in nature. That is, the presence of the superficial, red, squamous or weeping, round, circular, and other shaped lesions would be noted, but they would be much larger—of the size of a silver dollar or even larger; confluence of many primary ones seemed to have occurred, the formation of crusts was more marked, the degree of inflammatory reaction higher, the cutis slightly thickened. Around and about the patches still discrete, a number of minute vesicles and papules had appeared, singly or aggregated together into areas of various sizes, the borders of which thus gradually faded out into the surrounding tissue. They may have become squamous, crusting, or weeping, but in every instance it was noticeably apparent that the patches had originated by the aggregation together of the primary vesicles and papules, had increased in size by the cropping out of new and similar lesions and their subsequent coalescence together around their borders, and that they had not undergone growth in the same manner as the patches which were found in the earlier cases of the disease. In other words, these new patches differed from those primary ones met with in earlier cases of the disease, not only in the matter of their development, but also in that of their growth and extension. The itching in these examples of the second class of the process also had become more marked, and it was observed that the child scratched the patches made up of vesicles and papules by preference. Moreover, on them scratch marks and small blackish crusts were seen, and not on the others.

The severest cases of the process which developed under plaster of Paris were those constituting the third class. They were seen in neglected children, in whom the eruption was of long duration and had received no attention, but had been allowed free play beneath the plaster. In these there were never seen any of the lesions or patches met with in the earliest cases, but the surface presented the same appearances as are found in an eczema originating under the influence of any irritative cause. An entire limb or other large territory would thus be seen covered with the eruption, and presenting to the view diffusely red, squamous or weeping, and crusting surfaces, or in portions there would be found innumerable minute vesicles or papules closely aggregated together so as to form patches, while interspersed between them and here and there would be pustules. These diffuse patches had no special characteristics, no particular configuration or symptoms, except those met with in eczema in general. The itching in these severe cases of the disease was more marked and sometimes very distressing. Occasionally, in this severe grade, extension beyond the limit of the dressing had taken place, and a few vesicles, papules, single or forming small patches, were seen here and there. The several pictures of cutaneous disease presented by these various grades of eruption appeared to me to allow the interpretation that the manifestations occurring in the earlier cases—those contained in the first division mentioned—represented the type of eczema which developed under a plaster-of-Paris dressing, while the lesions—papules, vesicles, pustules—which developed later and in proportion to the length of time the dressing had remained on the surface, were independent of the original process, and had developed secondarily and under the influence of the irritant action resulting from the decomposing natural and diseased secretions retained upon the skin—that is, were evidences simply of an eczema from irritation. In cases which were neglected and on whom the dressing was allowed to remain unattended to, though a slight eczematous outbreak had occurred, the decomposition of the normal secretions mixed with those coming from the diseased patches, as well as the scales and epidermic *débris*, would naturally occur, and that this did occur was evidenced by the very offensive odor proceeding from under the plaster—an odor, moreover, so marked that the certainty was felt that a cutaneous eruption existed even before it was revealed by removing the dressing. Under these circumstances, and in a patient perhaps more or less susceptible to reactionary inflammation of the skin, a powerful determining cause would be present, and the excitation of an eczematous outbreak, having the characteristics of those due to irritation, would be the natural result. The occurrence of eczema under such influences is a well acknowledged and recognized fact, and when the cases which have been under my care were taken in order, according to the length of time the plaster had remained *in situ*, it was possible to trace transitions from the simple and original type to the gradual and partial obscuring of its characteristic features and ultimately to their complete disappearance under the extensive outbreaks on the skin of the lesions belonging to the secondary process. There was not a transformation of one type of lesion into another; an original superficial, scaly, or weeping patch, characteristic of the disease as it primarily appeared, did not become a group of papules or vesicles, but it remained present until it was crowded out, wiped out, by the continued eruption of these secondary lesions and extension of the inflammatory process; and, finally, a point would be reached when the entire surface presented a picture perfectly illustrative of an eczema the result of some mechanical, chemical, or other irritant—one which bore no resemblance whatever to the disease in its original and primary form. Besides, the conclusion that the lesions found in the early cases represented the type of eczema which primarily develops under a plaster dressing was strengthened and affirmed by the observation that the cutaneous manifestations described as belonging in the first class persisted as long as there were no evidences of decomposition of the secretions, natural and diseased; but, as soon as this had occurred, then, in addition to the original patches, vesicles, papules, or pustules would be found to have begun making their appearance around and about the primary manifestations of the process.

Regarding the eczema upon these patients, therefore, as of different types and as resting upon different ætiological bases—the one being an ordinary eczematous outbreak produced by irritation and developing secondarily upon the other, which had special characteristics, was primary, and the type of an eczema appearing under plaster—the question naturally arises as to the cause of this latter and the manner in which its existence was brought about. Notwithstanding that in all the children there were systemic disturbances of one kind or another, yet I do not think that the eruption was of internal origin. The anæmia, the tubercular or other diseases existing, might certainly predispose to eczema to the extent that these systemic conditions lowered the patient's general nutrition and thus rendered the tissues less able to withstand external irritation of one kind or another and more liable to reactionary inflammation; but that these systemic disturbances were in any way the determining cause of the eruption does not, in my opinion, find substantiation in the clinical facts observed. The localization and the limitation of the eruption to the surfaces covered by the plaster alone should be sufficient to exclude any idea of the internal origin of the disease, but further proof is found in the fact that local treatment was the only means used for the cure of these cases, and, though the systemic disturbances persisted, yet they all got well. Moreover, when the cutaneous manifestations had been entirely removed, reapplication of the plaster was not followed by an eczema, notwithstanding that the same systemic conditions and disturbances as before were still in existence. Furthermore, if the disease—the eczema—had been purely of internal origin, we would have seen it appearing on other portions of the body as well and not in so localized a manner, inasmuch as it would have followed the proper course and presented the clinical symptoms belonging to those forms of the process. In my opinion, formed by the study and experience obtained from the treatment of several thousand cases, the only eczema purely of internal causation is the one which results from reflex nervous influence or which arises from nerve irritation of one kind or another, whereas in all the other forms of the disease an external and local determining cause acts alone in producing the eruption, or in participation with the internal predisposing factor. The disease, as it develops after nervous shocks or direct injury to nerve trunks or branches, does not come under consideration in connection with those cases of eczema appearing under the plaster dressing; but the systemic disturbances existing in the children would suggest a possible reflex irritation as being the determining cause of the cutaneous lesion from which they suffered. From the examples of eczema under plaster those of reflex nervous origin are, however, distinguished in infants and children by their localization, by the characteristics of the clinical symptoms of the disease, by their course, and by the severity of the subjective sensations. As regards the first point of difference, the neurotic type is localized primarily on the cheeks and forehead, and then appears in more or less symmetrical patches over the extremities, following more particularly the extensor than the flexor surfaces, which latter may be almost or entirely free, even though the eruption is of a severe grade. The trunk is most usually free, or implicated only later in the course of the disease. The earliest clinical manifestations consist of patches of various sizes, more or less circumscribed, and composed of innumerable vesicles and papulo-vesicles and papules grouped and aggregated together, having more or less of a herpetiform appearance. For instance, the entire surface of both cheeks and the forehead may be occupied respectively by a patch, the middle portion of the face and chin remaining, however, free, but on the extremities the groups of lesions are usually smaller. In the course of the disease these lesions give place to areas, more or less large, of weeping and of crusting, and appear to and do vary according to the general condition of the patient. Some gastric or intestinal disturbance, or dentition, or strain and irritation to the intestinal tract from faulty and inappropriate diet, etc., are always found existing in these cases, and the cutaneous manifestations are observed to improve or to become aggravated in accordance with the improvement and removal or persistence and aggravation of these systemic conditions The patches may disappear almost entirely and reappear suddenly under the influence of a nervous irritation or qualitative recrudescence of the intestinal or other derangement, or while cutting a tooth, or after a severe fit of anger, etc., and their entire removal is only obtained when the child is in every way placed in the best possible condition of health. The clinical symptoms and course followed by this form of eczema occurring in adults is also very similar to the one described, but with them, however, the inducing cause of the eruption and of its relapses is not always so easily traced and recognized as in infants and children. From the description given of this eczema, purely of internal origin, it is apparent that it differs in every particular from those forms of the disease which developed primarily under the plaster, so that it may be said that the latter were not representatives of that type of eczema, were not purely of internal origin.

They would, in consequence, have to be due either to external causes alone or to an internal one and an external one operating together. In a certain and limited sense, I would regard the latter—both an internal favoring and an external determining cause—as existing in these cases, the systemic disturbance or condition predisposing the patient to the eruption, or preparing a base favorable to its development, the external agent being, however, the active and determining cause. I do not think the plaster itself can be accused of being this latter, for the reasons that it is practically a non irritating substance; that in my cases it was not applied in every instance directly to the skin, but over some intervening medium; that the same kind of plaster and from the same package was used in many cases, yet the eczema developed in only a few, and that when the eruption had been cured, the plaster dressing could be reapplied, and the eczema did not redevelop. The dressing could not, furthermore, have acted as a mechanical irritant by rubbing, it being fixed in place and immovable; nor could it have exerted an influence through pressure, as this latter will produce a dermatitis, an ulceration, not an eczema; and even if it had been in this manner the determining cause of the eruption, the primary symptoms would have been those of an irritation eczema and not such as did develop and were found upon the skin in the cases representative of the early stages.

The cutaneous surface being protected, however, by the dressing from any external irritant which could come in contact with it and produce the eczematous eruption, the plaster itself being excluded as a cause and also the internal disturbances, functional or otherwise, we must, therefore, look for the determining cause of the eczema in these cases in some agent or condition or other present on the skin prior to the application of the plaster of Paris, and these seem to me to be found in all probability in the presence of some certain parasitic germs, which, under the favorable conditions in which they were placed, grew and prospered, and, by their penetration deeper into the skin, caused sufficient irritation to provoke the eczematous symptoms. An eczema due to the action of vegetable parasites has long been suspected and suggested by dermatologists, and to-day there is a strong tendency to ascribe a large portion of the eczemas met with to such causative agents, notwithstanding that no particular germ or germs have yet been definitely demonstrated or connected causatively with the disease. Still, cases are so frequently seen presenting symptoms totally different from those the result of an internal reflex cause alone or of the combined action of systemic disturbances and external mechanical or other irritants—that is, other than parasitic ones—or of the latter alone, that it appears impossible at first to include them in the family of eczema, and it is only later and after the higher stages of development are reached that the weeping, exudative, and other symptoms demonstrate that they are examples of cutaneous catarrh. These cases show for the most part in their primary lesions the very superficial seat, the configuration, the mode of evolution and involution, the general course, etc., as have been described for the early cases developing under plaster, though certainly there will be in each and every one qualitative and quantitative differences depending upon the nature of the soil, their situation, the locality affected, etc.; but, nevertheless, the divergent features are never so great but that recognition of the type of the eruption is possible. Whether ultimately only one parasite or many will be found, which are productive of eczema, when they exist on the skin under favorable circumstances, it is not possible to say at the present day, though in all probability several or more will be finally found to exert a pathogenic influence, or at any rate to produce sufficient irritation by their penetration from the superficial situation, in which they are originally placed, to deeper portions of the skin, to provoke a catarrhal inflammation.

When we turn to the cases of eczema which developed under plaster of Paris and were under my care, there are found many factors strongly in favor of the theory or view that they were due to some parasitic cause. It has been abundantly demonstrated by investigators that both pathogenic and non-pathogenic micro-organisms exist on the skin of persons who, however, have no cutaneous disease whatever at the time, and, this being the case, we may safely presume that under favorable conditions these micro-organisms may develop and multiply so as to become a source of irritation and consequent inflammatory reaction in the skin. Under plaster of Paris there exists every condition suitable for such growth of parasitic germs—the dressing, being fixed and immovable, affords perfect protection to the micro-organisms, guarding against their being disturbed or dislodged by rubbing, washing, or scratching of the skin; warmth is furnished by the body heat and its diminished radiation; moisture by the perspiration secreted. In addition, there is a nutrient base furnished by patients suffering from various ailments, which have also lowered the normal and inherent power of resistance of their tissues, so that they more easily succumb to any irritation. Under these circumstances it must be granted that parasitic germs, which may be present, would be able to flourish and produce those effects which, in these cases, were respectively seen in the examples of favus, of tinea, and of eczema mentioned.

The two cases of favus and the one of tinea circinata seem to me to furnish grounds from which it is possible to argue in favor of the parasitic nature of the cases of eczema. The former are beyond question due to vegetable parasites, and their origin from any other internal and external cause impossible. The germs productive of these diseases must have been on the skin previous to the application of the plaster, or how could they have gotten there otherwise? They may have been, it is true, in the garment or the cotton interposed between the skin and the plaster, but that does not invalidate the argument that they must have been in contact with the surface of the skin before the plaster was applied. The spores could not have been in the plaster itself, inasmuch as other patients were treated with material from the same package and yet did not develop favus or tinea; and, besides, even if the germs had been present in it, the rapid hardening of the dressing would have inclosed any and all spores within itself and have prevented their access to the skin, have hindered their growth, if not have destroyed them altogether. Whether these mycotic agents had been present for any length of time on the skin or not, whether they arrived on the surface only just before or during the procedures preparatory to the use of the plaster, is not of any material importance. It is, however, probable that the former was the case, inasmuch as the children referred to in this paper were hospital patients, a class not noted for cleanliness, and therefore particularly liable to harbor on their skins parasitic germs of all kinds. That they remained on the cutaneous surface must certainly be attributed to carelessness and want of proper attention in carrying out the necessary procedures preparatory to applying the plaster; that is, the washing and cleansing of the skin was not properly done, so that micro-organisms—those of favus and of tinea being especially referred to at present, but the remarks being also applicable to all other parasitic germs—present and existing were not dislodged from their nesting places or removed from the skin. In consequence, these spores were left behind and enjoyed an opportunity to develop under the favorable conditions existing beneath the plaster, and thus produce that disease incident to each one.

What has been adduced in regard to the examples of favus and the one of tinea will undoubtedly also hold good in connection with the cases of eczema which developed under similar conditions—under plaster of Paris. The children were also hospital patients; the same general conditions favorable to the growth of parasitic agents and the consequent production of the eruption as have been mentioned in the other two diseases were present in them; want of proper care must unquestionably have preceded the application of the dressing in such cases as developed the eczema, and a still further favoring factor existed in the neglect of the parents of such children to bring them for examination or for removal of the plaster at the periods of time specified. A dressing would thus remain on the surface for a number of weeks perhaps, and the parasitic agents be allowed full opportunity to develop and cause cutaneous changes. Another factor which was observed, and which also is strongly favorable to the view I have taken, is that when a patient had been cured of his eczema and the proper care and cleansing of the skin had preceded the reapplication of the plaster, no eczema redeveloped. That is, under those circumstances the case—a hospital one—was placed in the same position as a private patient, in whom cleanliness is more usually found, who receives most particular care before the dressing is applied, and who has the dressing taken off and reapplied frequently, the result of which care is shown, as I have been informed by those whose work has given them great and extended experience, in the *very rare* occurrence of eczema under a plaster dressing among those who receive that form of treatment in private practice. This difference in the frequency of the disease among those who come to hospitals for care and private patients is in itself strongly suggestive of the parasitic origin of the eruption, for in both the same systemic and predisposing factors are found, the same material and plaster are used, the same favorable conditions for the growth and prosperity of micro-organisms exist under the dressing, and yet the eczema occurs in that class —hospital patients—who are most apt to be exposed to carelessness in the carrying out of the procedures prior to the application of the plaster, and who are also especially liable to harbor upon their skins parasitic germs of all kinds, both of which conditions are absent or minimized in the other class. Except for some such origin as has been mentioned—a parasitic one—there is no reason why eczema should develop under the conditions in question more in one class of patients than in another, and my experience with such cases has demonstrated to me that, when both received the same and the right degree of care prior to the application of the plaster, the appearance of an eczema beneath the dressing did not occur.

Regarding the eczema which exists under these conditions, therefore, as parasitic in nature, their avoidance can best be obtained by treating the skin properly and carefully before applying the plaster dressing. The surface should be thoroughly washed with soap and water, a good stiff brush being used, and then with a bichloride-of-mercury solution (1 to 1,000 or weaker). After carefully drying, a further rubbing with strong alcohol, or alcohol and ether mixed, ought to be sufficient to completely remove and destroy all parasitic elements which may be present. The dressing should, in addition, be renewed at proper intervals of time, the same procedures being followed as when it was first applied. It may also be stated in addition that the cotton or other substance used between the skin and the dressing should be perfectly clean and, as far as possible, aseptic.

Should the patient, when first seen, have any cutaneous eruption upon the surface which is to be covered by the plaster, it should be cured before the dressing be applied. There would be every probability of its becoming much worse under the dressing and of a secondary irritation eczema starting up. This is what occurred in the first case of favus reported here. While cutaneous lesions were still present the plaster dressing was put on, and underneath it the achorion had every chance to develop and form the scutula, the secondary complicating eczema owing its origin later, probably, to the irritation of the retained decomposition products on the skin.

When an eczema or other disease of the skin has developed under a plaster dressing, the first indication for its treatment must be the removal of the dressing. Whatever process is existing must then necessarily receive the treatment appropriate to it. I would confine myself here, however, to the examples of eczema alone, and the treatment which has appeared to me the most applicable in such cases. Of course it will vary according to the grade of the disease which exists, whether it represents the pure type developing under such dressings, or whether there is, in addition, a more or less severe irritation eczema ingrafted secondarily upon it. When the latter was the case it was found advisable to primarily remove these symptoms, or at least to reduce their acuteness before proceeding to the use of those remedies required by the parasitic element originally present. For this purpose any of the applications suitable in acute eczema were of benefit. ℞ Calamine, oxide of zinc, āā gr. xv; glycerin, ʒ ss.; aq. ℥ j. M.; or, better yet, owing to its greater hygroscopic power, a lotion: ℞ Magnesii carbonat., pulv. zinc. oxid., āā ʒ j; aq., ℥ iv. M. Dry starch would also be useful, but better if mixed with five per cent. of boric acid or ten per cent. of biborate of sodium. An ointment could also be used if preferred. Salicylic acid, two per cent., in ung. zinci oxid., to which there could be added magnesii carbonat., three to five per cent., or six per cent of salicylate of sodium, would be found to give most excellent results. As soon, however, as the acute inflammatory symptoms had subsided, then the use of ichthyol gave brilliant results. It was used by me in all the cases, from the very first in the early ones, and after subsidence of the acute stage in those complicated by the secondary manifestations. The ichthyol was applied in aqueous solution (five to ten per cent.), or it was added in the same proportion to one of the lotions mentioned already, especially when some few vesicles and weeping patches were still present or when the development of the secondary eczema was only slight in degree. Incorporated in ung. zinci oxid., or in one of the others already mentioned, ichthyol was likewise of such value that with it alone the evidences of the cutaneous process were entirely removed. Occasionally the percentages mentioned were found to be too strong, to produce irritation or too great keratinization. When this was the case, a three or four per cent. lotion or ointment was used. Resorcin was also tried in some cases, either in solution or in an ointment. The results obtained were good, but yet not as much so as from ichthyol. At times, especially in the cases in which the secondary eczematous eruption had been of a severe grade, some slight or marked thickening of the skin remained, and in these tar had finally to be used. The ung. picis liquid. et zinc. oxid., partes æquales, were usually sufficient to effect the removal of these residual symptoms.

7 West Thirty-first Street.

ON THE ÆTIOLOGY OF INFLUENZA.

By GIOVANNI MERENNA.

It would have been strange if any student of the influenza had not looked out forthwith for the microbe in the case. Yet never was there at first sight such a desperate, or at least unpromising, prospect for the microbic theory. We know most positively that the disease in question travels with tremendous rapidity, being enabled by its mysterious powers to run around the earth in less than one revolution of the sun. How could we think of that slow, obscure artisan of ruin—the microbe—in presence of such brilliant performances? What are the characters under which influenza has generally appeared to us? In what peculiar circumstances have we seen it arise? Let us see of what facts we can dispose, and if we can find significance enough in them to form a theory, or at least conceive an idea, as to the nature, or rather ætiology of the disease.

Originating, as is supposed, in the ninth century, innumerable epidemics of this disease have since occurred, the Russian lakes, Tartar steppes, or other wind centers being seemingly frequent starting-points. That its cause exists in the air is shown, many think, in its occurrence so often in mid-ocean on slow-going ships. Such statements as the following we frequently meet in the literature on the subject:

"Its spread through a country is exceedingly rapid."

"In 1729-'30, during a period of five months, it overran all Europe."

"In 1782, at Petersburgh, on a cold night the thermometer rose thirty degrees, and the next morning forty thousand people were taken ill with the influenza."

"In this year (1782) the disease made the distance from Königsberg to Berlin, ninety-six Prussian miles, in four days."

"Within eight hours after its arrival in any given place, one third or one half of the inhabitants may become its victims."

"In 1803 it broke out in many parts of the kingdom of Great Britain at or about the same time."

"It attacked the entire population of Nismes in one day with scarcely a single exception."

"*La grippe* reached Venice at night in 1640, and by morning half the population had been attacked by it."

Short says: "It attacked at once and raged over all Europe, not missing a family, seldom continuing longer than six weeks in any place."

Late experience with it in this country and in Europe corroborate these older statements. It overruns a continent in six weeks. It may cross an ocean in an incredibly short period of time. Such experiences are not those exhibited by a microbic infection. Whether it is contagious is still unknown; that such is not essential to propagation is evidenced by its "attacking vast regions at once, descending upon remote and isolated habitations and clutching sailors on shipboard in mid-ocean."

Some writers place influenza "very low in the scale of contagiousness."

Among phenomena relating to the weather which seem to have had a connection with the epidemic influence we note:

"Extraordinary vicissitudes, easterly winds, thick or offensive fogs, and diseases often of a similar kind among horses, dogs, and cattle."

"It is a disease either of spring or autumn."

"In fact, extraordinary vicissitudes have been more remarkable than anything else; in some places one peculiar sign of atmospheric *intemperature* has been observed, and in other places a different sign; and the epidemic has frequently fallen capriciously, like a blight over a country."

"Thick, ill-smelling fogs preceded some days the epidemic catarrh of 1567. July, August, and September had been very hot and dry, and in the end of September came a very strong, cold north wind."

"Birds and brute animals suffered generally the same year."

"Insects very plentiful, etc."

"Great extremes of weather preceded some epidemics."

"Irregularity and frequent changes of the weather, from heat to cold and from cold to heat, etc."

"The influenza of the spring of 1733 appeared in France immediately after offensive fogs, more dense than the darkness of Egypt."

Huxham says: "The cause of epidemic catarrh seems to depend on a thick, moist, and cold air, and notes epidemic fatal disease among horses."

Various writers note: "Concurrent fatal disease among horses and animals (deer and sheep)."

"Thick, noisome fogs and smoky-smelling atmosphere."

"Sun seldom seen for five weeks."

Hamilton says that "in 1782, from January till May, the weather was uncommonly unfavorable, and that the latter month was remarkable in all the meteorological annals of Europe for its unusual degree of cold and humidity, with a gloomy and uncommonly disturbed state of the atmosphere."

"Sudden changes in the atmosphere are said by Cummings to have produced it in the United Kingdom of Great Britain in 1803.

"Sea captains noted 'thick and foggy atmosphere continuing for a longer time than known in thirty years.'"

"No uniformity in atmospheric changes conducing influenza, but it is noted that changes from warm weather to cold and from cold weather to warm, with dampness, fogs, and easterly winds, have rarely been absent from the catalogue of natural indications.

"Upon the whole, it would appear that some general cause, if not originating, at least subsisting in the atmosphere, and depending on its changes, progressive also in its movements from place to place and from country to country, gives rise to the disease."

According to writers the course of an epidemic varies.

"In 1510 its course seems to have been in a northwesterly direction from Malta to Sicily, Spain, Italy, Germany, France, and Britain."

"In 1803 its course seemed to be from south to north. It was in Cork and Dublin before it reached the north of Ireland, immediately after a southeast wind."

"It sometimes skips certain countries and never goes back to include them."

"It either follows a westerly course or one from the south to the north. If its course be westward, it does not usually take extensive leaps over kingdoms and then return to those it may have missed, as would be likely to happen if nothing more than personal intercourse and the various casualties of travelers' routes exerted an influence in determining its course. But it sweeps along the north from the east through Russia, Poland, and the north of Germany to England, and then wheels around through France and Spain to Italy. But if influenza arises in the south, it takes a course from Italy through Spain, France, Britain, and the Netherlands, along the shores of the Baltic. In the one case, France is attacked before England; in the other, after it."

Further facts noted regarding it are the following:

Dr. Binns states "that at the time the scarlatina existed at Ackworth School in 1803, the influenza prevailed in the neighboring towns, except that the latter did not attack a single individual of the family at the school, consisting of between three and four hundred persons."

"Burton and Trent also in great measure escaped the influenza the same year, and scarlatina, with whooping-cough and measles, were epidemic there in its place."

"In London the influenza of 1803 superseded or deferred the usual diseases of the spring, as the measles and scarlatina; this is also recorded by Lorry to have been the case in the epidemic catarrh that prevailed in France in 1775, but he adds that during the summer these complaints appeared with more than usual violence and fatality."

"At Aberdeen the influenza of 1775 began near the end of November and continued four or five weeks, but did not visit Fraserburg, where there *was a putrid fever very fatal at the time.*"

"Dr. Vaughan says that at Rochester, when the influenza of 1803 ceased, an exanthematous fever prevailed, which did not appear to attack any except those whom the influenza spared."

"Dr. Gibney reports that at Navan, in Ireland, after the influenza of 1803, a low fever, almost constantly prevailing in that town, disappeared for a considerable time."

"Typhus fever at Hollywell, near Chester, disappeared on the appearance of influenza in 1803, and did not return afterward."

"Dr. Rush noted the disappearance in Philadelphia of scarlatina anginosa during the epidemic, but it reappeared after the influenza left the city."

These facts show that there is a closer connection between some epidemic diseases, both as to their affinity and as to their causes, than we commonly imagine, and that it is only by a very enlarged view of these phenomena in different countries that we can hope to improve our knowledge in this obscure branch of science.

Semmola, in his lesson on Influenza (Therapeutic Clinic of the University of Naples, *Progresso medico*, February 28, 1890), says as follows:

> In these latter times no epidemic disease has shown more clearly once more the truth of the famous adage of Baglivi, *in medicina majorem vim facit observatio et experientia quam ratio.* The influenza is undoubtedly an epidemic disease. It may be considered equivalent with grippe, provided the latter name be not used to designate, as happens too frequently, all the catarrhal affections of the respiratory apparatus which develop during the winter, or during the periods of transition. We are completely in the dark as to the originating causes of the disease. We know for a certainty that they are in the atmosphere, otherwise the distemper could not travel as rapidly as it does. So far, there are a few observers who fancy they have discovered the characteristic microbe, and they have jumped to the usual conclusions. I am free to declare that it has *not* been discovered yet, and that its existence will probably remain in a mythical state, as well as that of many other microbes assigned to measles, to scarlatina, etc. But not only has no specific microbe been discovered as yet, it remains still an open question whether it is really a microbic cause that generates the influenza. There exist many reasons for assuming that its nature, and consequently its origin, is parasitic, for it would be difficult to explain how the animal organism, after suffering with the influenza, could experience such a diminution of its power of resistance and those disintegrating manifestations which none but a microbic and violent agency seems capable of producing, as if a leaven had penetrated into the system. But, for all that, there may be cosmotelluric conditions, undetermined and undeterminable, capable of producing very severe disturbances.

Our knowledge in regard to this subject is unpleasantly imperfect; we know absolutely nothing of the effects which the physico-chemical changes going on in the extra-organic surroundings may produce in the activity of biological phenomena, and yet we do know most positively that these physico-chemical changes are innumerable, judging chiefly by the variable dominating character of the diseases which the ancients called medical constitution, and by which the old clinics used to lay greater store than the moderns. Nowadays, inflated by the progress of medical science, we have contracted the evil habit of forgetting, or else of denying downright, whatever we do not succeed in explaining. And that is just what happened with the medical constitutions. It is certain that, in the present state of our knowledge, all those pathogenous discussions in regard to influenza are nothing but more or less plausible hypotheses, as the illustrious Graves said fifty years ago. In the case of this epidemic disease, then, as well as in that of all similar diseases, it is vain to delude ourselves with specious phrases. No one can flatter himself with having wrenched from nature the secret of their true cause and propagation.

I have read in some German papers that, as usual, the drinking-water has been inculpated. It is my opinion that, for the influenza, it is simply ridiculous to recur to this mode of propagation, considering the manner in which the disease spreads and the very good quality of the water which is used in many of the cities visited by the influenza. The chief logical consequence of such a notion is that there is no means by which influenza can be avoided. It is only for the sake of provoking a little mirth—such a good thing in times of epidemics—that a distinguished physician in Naples has recommended, as he is wont to do, pulverizations of phenic acid. True, the rheumatic influences—that is, colds—facilitate the invasion of the influenza; but I have seen numerous cases of persons affected who had never left their rooms. The influenza strikes almost like lightning. It has been assumed by some to be a contagious disease, but I am inclined to think that it is only epidemic, and that all the instances which have been recited in favor of isolation as a means of preservation are to be accounted for by individual non-receptivity.

The form and intensity of the disease in different patients are exceedingly variable. Albeit this variability of form may be accounted for by assuming a constant cause, modified, as for that matter it is in all epidemic diseases, by individual conditions, I think I may say, nevertheless, that in no other infectious disease there occurs such a strange polymorphism. In the midst of this great variability three typical forms can be constructed always—that is, with infinite gradations: One is the neuralgic or febrile form, the second is the adynamic form, the third the catarrhal form. In the first an intense cephalalgia breaks out with higher fever, up to 41°; in the second the subject is seized with great prostration, with little or no fever; in the third, finally, with or without fever, there begin intense catarrhal symptoms from lacrymation and rheum to bronchial catarrh. But let me point out again that there is nothing constant in this division, inasmuch as, sometimes, one or several of the symptoms aforesaid fraction themselves and entangle themselves together in such a capricious fashion that a clinical form may result capable of being confounded with simple rheumatic fever or an attack of intermittent hemicrania, etc. In the cases where the cephalalgic and adynamic forms are predominant, the erratic neuralgic forms along the inferior extremities to the finger tips are most frequent. The patients declare that they feel their nails jump. The gastro-intestinal disturbances are rarer, and they go in preference with the catarrhal forms. In these cases one finds sometimes vomiting and diarrhœa occur together with rheum and bronchial catarrh. The fever, which, as I have just said, may become very high in a few hours, will usually, after twenty-four to forty-eight hours, give way to a complete apyrexia, and in other cases be totally absent. In those cases the subject experiences only a general discomfort, an unaccountable fatigue, and all localized pain may be totally lacking. But, I repeat it once more, it would be utterly impossible to comprehend adequately, in the clinical picture of the influenza, all the gradations and strange modifications of the divers symptoms in the immense variety of the subjects.

The most prominent character or peculiarity of this disease appears especially in the consequences which it leaves in the system in spite of its brief duration. And this clinical observation becomes the more important if we compare it with all the other acute infectious diseases whose duration is much more protracted. In what consist, scientifically speaking, these consequences, we do not know, and never shall. It is as if a kind of leaven was putting the whole amalgamation of the vital economy topsy-turvy, and as if this leaven thus became, so to speak, the touch-stone of the health of the affected system. If that system was in a state of perfect health—that is, without any actual disease, or without any organ still in a state of debility from an anterior disease—then the sufferers from influenza, provided they take the necessary precautions until complete cure, have to fear no serious consequence or complication. But if, on the contrary, the influenza strikes a subject already ill, or valetudinary from another disease, it degenerates readily into diffused bronchitis or into pulmonitis, and in general the system derives from the influenza a great facility for being morbidly affected by all external influences, and especially by diseases *a frigore* and by other infections.

How this comes to pass, I say it again, we do not know. The system remains poisoned, and especially with a peculiar debilitation of the nervous centers, which deprives it of all power of resistance; this is the straw that breaks the camel's back in all cases of chronic (especially constitutional) disease, where life is only dragged along with much adventitious help. This has happened, for instance, in albuminuria, in diabetes, and in other exhausting diseases. I have seen a diabetic who for many years had apparently rubbed along well enough, seized with aggravated pulmonitis in consequence of influenza, and then killed in a few hours by acetonæmia when convalescent from the pulmonary disease. I forbear mentioning other cases to avoid superfluous details. In the first times of the epidemic, when it had not been possible yet to obtain that clear and precise clinical idea, it happened constantly that subjects affected with the influenza, believing themselves perfectly well, the fever having subsided, left their beds after one or two days at the outside; many even went abroad to resume their vocations without any regard for some remaining catarrhal symptom, or for their general weakness. All these experienced a relapse, some contracting very serious, even fatal, diseases. In these cases pulmonitis was very frequent, resembling sometimes the croupous pulmonitis, and this was the chief cause of the mortality after the influenza. And here it will not be superfluous to remark that the microscopical analysis of excellent observers has not always found the pneumonic diplococcus or streptococcus, or any other special microbic element, which shows, in my opinion, that this kind of pulmonitis consequent upon the influenza, which may be considered as infectious, is not of the same nature as that previously studied. It is easy to assert that the pneumococcus, which is found in a latent state in many healthy individuals, acquires eventually a powerful virulence developed in a propitious soil, which is the soil prepared by the influenza. But in reality this is nothing but a play with words; it is "*ignotum per ignotius*"—utterly unprofitable for a true clinic, and especially for therapeutics. I must insist on calling your attention to the fact that this pulmonitis, in a majority of cases, has developed through rheumatic causes—that is, abrupt changes of temperature; and that, clinically speaking, I have always held the opinion that, even admitting as incontrovertible the existence of a specific micrococcus in the production of a pulmonitis, the influence of cold is all the same an important determining cause.

I do not intend to discuss here the mechanism of these two combined causes. Besides the clinical observations most interesting to me are these: that the pulmonitis is, in most cases, insidious, without shiverings, without pricking pains, without rust-colored expectoration, without any vestige of bronchitis presenting the character of successive invasion—that is, in centers of which the second, the third, and so on, develop in other places in the lungs when the preceding center of attack could be said to be suppressed. It seems to me that no sufficient notice has been taken so far of these clinical observations. Among the other morbid inflammatory successions which I have most frequently observed, besides bronchitis and pneumonitis, I wish to point out polyarthritis and intestinal dysenteric catarrh. In two cases I have seen ileum typhus develop when the fever of the influenza had completely subsided, and in a multitude of cases, moreover, I have seen febrile forms developed, so strange, so atypical, that there was really no naming them except by that denomination, which nowadays is applied so readily to a number of acute and subacute fevers, of infectious fevers, with the sole view, I verily believe, of hiding our ignorance. More variable still, and stranger, are the inheritances left by the influenza to the nervous functions. Not to mention the obstinate prostration and very variable neuralgic forms, especially of the trigeminus, I have observed unilateral or complete ptosis, Daltonism, hyperæsthetic forms, spasm of the uvula recurring with typical periodicity, etc. In short, clinically speaking, the relapses of the convalescents from influenza may present such a variety of clinical forms that in many cases it is utterly impossible to make the diagnosis with one well-defined name. There is one case which deserves a special mention; it is that in which the subject, although strong and robust, was seized three or four days after the cessation of the fever, when there remained only a pronounced adynamia, with a severe purpura hæmorrhagica, with forms of spots, vibex, intestinal hæmorrhage, etc. And it must be observed that this subject, though in good health, had suffered from purpural hæmorrhage seven years previously. Finally, I call your attention to another case really important from a pathological and therapeutic point of view.

It is that of a young woman who had suffered many years previously with a slight intermittent fever of a paludal origin; the fever had been cured completely, leaving no trace except a little splenic engorgement. This lady was affected with influenza forty-four days after parturition; she had perfectly recovered from the puerperal effects, at least in appearance. At the time mentioned her menstruation returned in a normal manner, while at the same time she contracted the influenza, with high fever, a little neuralgia, and a very slight bronchial catarrh. The fever subsided after four days and she believed herself convalescent, only she thought it safer to remain still in bed. After two days there breaks out all of a sudden an intense febrile paroxysm, preceded by long shivering, followed by fever up to 41° C. (105·8° F.), and eventually by profuse perspiration and a severe adynamic state. This paroxysm returned on eight consecutive days with typical periodicity, the patient remaining apyretic for twelve hours at 36·5° C. (97·5° F.), and two days more at 36° C. (96·8° F.). Large doses of quinine were administered, two grammes (30 grains) a day, first by way of the stomach and afterward hypodermically. I was called in consultation before the hypodermic use of the quinine salt was begun. I accepted the proposition of the excellent physician in attendance, but I added categorically that I was convinced that the paroxysm would not give way. And it did not. On the ninth day the patient was carried to Torre del Greco, on the outskirts of Vesuvius, and the following day the paroxysm disappeared.

What was it? What singular infection have we here? I prefer saying that I do not know; but it is certain that while the clinical form indicated an exquisite intermittent and periodical paludal form, not excluding the spleen, which remained somewhat engorged from the old paludal infection, the action of the quinine remained absolutely null.

Finally, I shall say a few words of the treatment.

There is not much to be said in this regard. Strictly speaking, there is no cure. We do not know the nature of the disease, and we shall never know it. In all conscience, therefore, we can not pretend to cure it. Empirically, as has happened for the cure of the paludal infection, no one as yet has discovered it. There remains, then, only the symptomatic treatment. But this also is not easy, on account of the rapid development of the clinical form. Moreover, it is well known what can be expected of the symptomatic treatment of the fever, the use of chemical antithermics being deprecated as injurious. The action of the quinine salts, even in high doses, is powerless against this fever, and, on the other hand, large doses of quinine by the stomach would give the patient a gastric catarrh. The uses of the quinine salts in small doses, as a tonic and neurosthenic against the peculiar debility caused by influenza, does neither harm nor good. It can only amuse the patient and prevent him from fretting as the days go by. I have seen hundreds of patients put on this diet of quinine for many days, even two or three weeks, without any apparent profit; for the prostration mended quite leisurely and, therefore, evidently only as the physiological powers increased. Nevertheless, the daily use of from twenty to thirty centigrammes (three to five grains) of valerianate of quinine may be reasonably approved, especially if the physician happens to have a patient who fancies he can not go well without this prescription. I can not condemn severely enough the use of salicylate of quinine, in favor of which there has been a real infatuation (*servum pecus*), not in the least justified by any scientific or clinical criterion, if we do not take up the usual commonplace about spurious antimicrobic medications. I will, however, remark that these medications cost the patient very dear, as, of all the various salts of quinine, the salicylate is the least tolerated by the stomach. But physicians, blinded by the progress of science, have also deaf ears for any advice given them. To allay neuralgia and myalgia some antipyrine may be used, but not more than a gramme (fifteen grains) in two or three doses; and if the patient does not feel promptly relieved, especially in pericranial neuralgias, I prefer to stop the treatment.

To combat the sleeplessness which frequently remains when the fever has subsided, I have advised a hypodermic injection of a centigramme (0·15 of a grain) of hydrochloride of morphine. Finally, for all the catarrhal complications let the curative methods already known be employed. For the cure of pulmonitis I wish to continue the therapeutic researches, which I began three years ago, about the use of high doses (2 to 4 grammes [30 to 60 grains] a day) of iodide of sodium in the treatment of croupous pulmonitis, especially as in all conscience we have not as yet any remedy to stop the diffusion and evolution of this morbid process. It has seemed to me that, in many cases, I had gained positive advantages. But I would fain forbear from drawing premature conclusions, and I beseech my honorable colleagues to contribute their accurate observations on this subject. For dietetics it is best to use *consommé* broths, milk, and yolk of eggs, with a little cognac or marsala, according to the tolerance of the stomach.

The fundamental precept which a physician must never tire of repeating to his patient, is to stay in bed for at least a week after the subsidence of the fever, and then to remain indoors for another week or two. This advice offers the surest preventive of every relapse, and the only means by which the system will be enabled to recuperate and to regain its pristine degree of organic resistance against the various causes originating so many diseases. And, to wind up, I will remind you of another immortal adage of the great Baglivi: "*Non post rationem medicina inventa fuit, sed post inventam medicinam ratio quæsita est.*"

Dowd (Résumé of Reports on the Ætiology of Influenza, New York *Medical Record*, March 29, 1890) concludes, regarding the results of bacteriological researches in numerous investigations thus far reported, as follows:

> "If we review these results we find that in three series of observations, embracing about thirty cases, *Diplococcus pneumoniæ* of Fraenkel-Weichselbaum was the predominant form; in six series, embracing sixty or more cases, *Streptococcus pyogenes* was the predominant form; in four series the reports leave us somewhat in doubt about the predominant form. Both the *Diplococcus pneumoniæ* and *Streptococcus pyogenes* were found in the lungs, sputum, and other secretions, and in various exudations, and each was many times found in pure culture—*e. g.*, in the pus in otitis media. Finkler finds pure growths of one, and Levy finds pure growths of the other. Both of these forms are found in the mouth and air passages in health, or conditions of slight disease, and they seem ready to set up their action when inflammation provides a suitable medium of growth. The general belief *is that they have not been the cause of the influenza*, but that they have developed as the influenza has provided them with a suitable condition for growth, and that their development may have caused some of the complications."

Klebs found "monads, as in pernicious anæmia and ague, which he assigned to a place among the rhizomastigma of the monadineæ according to Bulschti's classification of these protozoal forms, to which he attributes the intermittency of relapses, claiming that such relapse is associated with stages in the development of the mixed organism (?)"

Prudden (Bacterial Studies in the Influenza and its Complicating Pneumonia, New York *Medical Record*, February 15, 1890) says: "But we ought not to lose sight of the fact that while we know that several diseases, among which may be mentioned tuberculosis, anthrax, erysipelas, pneumonia, typhoid fever, relapsing fever, etc., are caused by bacteria, there is a large and important group—small-pox, measles, scarlatina, yellow fever—about the relationship of which to micro-organisms we know, except by inference, practically nothing at all. These latter diseases, too, stand so apart from the others in their clinical manifestations and mode of transmission that it must be assumed that their peculiarities and the fact that we know as yet so little about them, in spite of much recent careful study, may be due to some marked difference in their ætiological factors. In other words, it is not improbable that the exanthemata, for example, and yellow fever, may be caused not by bacteria at all, but by some other kind of micro-organisms which our present means of study do not enable us to take cognizance of or cultivate in the usual way." And further: "That in its ætiology it *may not exactly be allied to malaria, but that it may stand related* in its ætiology to the better-known acute infectious diseases, much as malaria does—that is, may be due to a micro-organism, but to one of an entirely different class. The *Plasmodium malariæ* belongs not among the bacteria or their close allies at all, but among an entirely different group of living beings."

And further: "But, whatever the truth of the matter may be concerning the assumed germ of the epidemic influenza, it is evident that studies with the current bacteriological technique should not be neglected until they are proved to be useless, or some better method of observation is made known; for even negative results may throw a side-light on this or closely allied problems."

And further: "The relationship of the influenza to the pneumonia is that of a predisposing factor only. This form of predisposition to pneumonia seems to be in many respects similar to that which *measles furnishes in children to the incursions of varying forms of pulmonary inflammation* whose determining ætiological factors have not yet been sufficiently studied."

Also: "That the culture methods and media commonly employed in the study of bacteria and allied forms of micro-organisms have brought to light no living germ which there is reason to believe has anything to do with causing the disease."

Bryson (The Present Epidemic of Influenza, *N. Y. Med. Journal*, Feb. 1, 1890) says: "As to the real cause of the disease any theory is admissible, since no two experts agree, and whole communities are at variance in regard to it. There are food diseases, house diseases—why not air or electric diseases? Epidemics of influenza may be due to some astronomical influence that upsets temporarily the normal electric equation. Certain physical phenomena, quite capable of altering in marked degree atmospheric electricity, have preceded and accompanied the present epidemic. Among these are earthquakes and excessive humidity. Earthquakes may produce extraordinary phenomena, the modes of motion—heat, light, and electricity—being correlated to each other and to mechanical motion or the motion of matter in the mass. The generally accepted theory of earthquakes at present ascribes the cause to terrestrial gravition or condensation of the earth, by which the mass moves slowly toward the center. This motion is partially arrested by the resistance of matter to further condensation, and so molar motion is converted into molecular motion, manifested as heat and electricity. Evaporation being the source and some impurity in the water a necessity of air electricity, the conditions favoring an increase of this fluid have greatly prevailed of late. In seasons that do not swerve from their regular course the wastes of the summer are gathered into the soil in the fall, and, there decaying, are carried away and neutralized if the ground be dry and air can find its way into it. But where water is, air can not penetrate. Remove the water, and air follows, forced by the pressure of fifteen pounds to the square inch, carrying with it the warmth of the sun, purifying, vivifying, and vitalizing the ground. Heat, moisture, and impurity are necessary elements in the production of infectious disease, though neither of the three, or the three combined, can create the morbid fitness needed for its appearance and propagation, unless there is present a fourth constituent, which thus becomes the essential factor. This something may yet be found to be an altered condition of atmospheric electricity, capable of causing corresponding derangements of the nervo-electric fluid. So long as any excess of electricity is neutralized by suitable atmospheric conditions, it remains without injury to health. But if the earth is highly excited negatively, the air being also in high negative tension the natural positive of the human body having been abstracted, and leaving a high tension negative struggling to coalesce with suitable outside fluid, what becomes of poor humanity? It is supposable that the impression of irritant and untoward electricity falls in our present epidemic upon the nerve-centers and upon the pneumogastric nerve, chiefly upon its pulmonary, gastric, and cardiac branches, causing excitation first, then nerve exhaustion or paralysis in greater or less degree, according to the condition of the nerves as to suscepti-

> bility, receptivity, or powers of resistance. It is not impossible that this peculiar nervous irritation may produce the phenomena of grippe, and also be the cause of other epidemics that resemble it. The power of wind and wave on healthful and abnormal conditions is of greater moment than has hitherto been recognized and considered."

It seems, then, according to these various authorities all antagonistic to the microbic theory, that we must consider influenza as a climatic disease dependent on atmospheric pressure and hygrometric circumstances. It shares this character with beri-beri and kakké. Ashmead (*University Medical Magazine*, January, 1891), treating of the latter disease, says:

> "The time when it is at its acme is the wet season—June, July, and August—a period which the Japanese call 'nubi,' a name significant of the prevalence of humidity, rainfalls, and mold. The naked earth is as green as a lawn during the wet season. All clothing, the floor-mats, the sliding paper walls reek with moisture. You can wring the water from everything. Therefore many persons consider kakké as a kind of rheumatism or a climatic disease."
>
> "That atmospheric conditions have something to do with the development of kakké might be inferred by the fact that it appears only during the wet and hot season."
>
> "Inundation of a miasmatic soil seems to be necessary to produce kakké; the drainage of the same produces malarial diseases. In 1880, as noted by Baelz, the summer was rainy and at the same time cold, and there was but little kakké. Successions of rain and burning sun are most essential conditions. Concomitant damp and hot weather has been also noticed in India. The southwest trade winds, producing rain in summer, seem to be an influence. Kakké ceases spontaneously on the appearance of the cold season. During the hot and wet season the inferior plants, the prolific mold, are developed with extraordinary rapidity. This induced Dr. Baelz to look for the parasite. But although Koch's method was carefully employed, nothing was found in the blood or in the tissues of the living or dead that could be constructed into an organized germ. The poison affects those subjects only who remain for a time within the toxic atmospheric influence, or those who oppose a feeble resistance to the process of acclimation or some debilitating agency."
>
> Ashmead (*loc. cit.*) and Sasaki agree that "the disease (kakké) is the result of carbonic-acid intoxication, superinduced by increased atmospheric pressure and relative humidity, the climatic relations not permitting sufficient oxidation in the lungs. Naturally, decomposition of tissue cells charges the blood with carbonic acid, which, as the result of imperfect elimination, interferes with nutrition, especially among persons of sedentary habits. A supercarbonized condition of the blood is almost universal among the Japanese, owing to the burning of charcoal and imperfect ventilation of the houses. This interferes with the functions of the respiratory centers. In a wet season the natural elimination of carbonic acid from the air is not so rapid in depressed localities. In kakké, *as in epidemic influenza*, the filaments of the pneumogastric nerve are especially implicated, and thus we have respiratory and cardiac complications."

These circumstances must evidently strongly affect the peripheral nerve resistance and thus produce influenza with us and kakké in eastern Asia, two diseases which we have good reasons to believe congenial.

College of Physicians and Surgeons.

THE ACTION OF TRYPSIN, PANCREATIC EXTRACT, AND PEPSIN UPON SLOUGHS, COAGULA, AND MUCO-PUS.*

By ROBERT T. MORRIS, M. D.

Something more than peroxide of hydrogen is wanted for managing the abscess cavities of tuberculous bone disease to our entire satisfaction. It is true that with hydrogen peroxide at hand we can open the biggest of cold abscesses in a feeling of security for the patient, and yet it is desirable to get the tough lining membrane of fibrinous lymph and the loose coagula and the sloughing diseased tissues out of the way as thoroughly as possible, for once these substances have begun to seethe in fermentative processes, we are hard pressed to keep the patient out of trouble.

The sharp spoon and scissors will do the work, to be sure, but only after tedious labor and egregious wounding of the weak patient.

A resource was brought into play a few weeks ago when I had occasion to make suggestions relative to the treatment of a crushed liver. Portions of the organ, which were dark and sloughing, remained so firmly attached that their removal was dangerous, and the pultaceous lining membrane of the enormous abscess seemed to invite all manner of microbe guests. The idea of liquefying the dead tissues with a digestive ferment came into mind, and this being suggested, was carried into effect by the family physician, who injected into the abscess cavity a solution of scale pepsin, and, writing to me afterward, said: "The pepsin did mighty good work. It broke up all dead tissues, rendering them mostly liquid, and changed the color from brown to straw-color. The liquefied substances were easily washed out through the drainage-tube. The wound was sterilized daily afterward with hydrogen peroxide, and the patient recovered without a bad symptom."

At about this time I received an invitation to read a paper before the society, and it was my intention to collect full data bearing upon the subject of liquefaction of putrescible substances in wounds with digestive ferments. The time has been short, but my facts, though comparatively few, are presented in the feeling that they are worthy of attention.

On theoretical grounds I had supposed that trypsin would be the best liquefier, that pancreatic extract would stand next in value, and that pepsin would be used only when it was inconvenient to obtain the other ferments; but when it came to a practical test, pepsin led all the rest. Experiments which were carefully made for me in detail by Dr. Charles N. Haskell, at the Pathological Laboratory of the Post-graduate Medical School, I will refer to only in a brief way here. Dr. Haskell used tough, partially dried blood coagula for test purposes, and the trypsin, pancreatic extract, and pepsin were fresh specimens kindly furnished for the purpose by Messrs. Fairchild Brothers & Foster, the manufacturers. As a result of numerous experiments, it was determined that four grammes of pepsin dissolved in three hundred cubic centimetres of water, acidulated with one per cent. of hydrochloric acid and applied to one hundred grammes of the coagula at a temperature somewhat above 100° F., would liquefy the coagula in thirty-six minutes.

---

* Read before the Medical Society of the State of New York at its eighty-fifth annual meeting.

Pancreatic extract used in alkaline solution, other factors being as in the pepsin experiment, required two hours and twenty-six minutes for liquefying the coagula, and at the end of that time little tough knots of fibrin still remained.

Trypsin in alkaline solution, and used in the same proportions and under the same conditions as the pancreatic extract and the pepsin, required two hours and ten minutes for liquefying the one hundred grammes of coagula.

From these experiments it seems that a ten-per-cent. solution of the best pepsin acidulated with one per cent. of hydrochloric acid, and heated to a temperature above 100° F. (not over 120° F.), will be proper for surgical purposes.

We need not employ the pepsin until the patient has recovered from the effects of ether after an operation, and then the liquefying process can be attended to at leisure. The abscess cavity should be washed out with boiled water, for antiseptic solutions would interfere with the action of a digestive ferment. The patient then assuming a good position for holding the pepsin solution in the abscess cavity, he can receive the hot injection; and hot fomentations continued for an hour will promote the action of the ferment down below.

Bad tissues sufficiently liquefied are washed out with boiled water, and the whole wound is then sterilized with peroxide of hydrogen and prepared according to the surgical conception of neatness.

The facts relative to the comparative activity of the digestive ferments were not known to me at the time when I asked friends to collect practical points for this paper.

Dr. C. N. Haskell liquefied two grammes of tough lining membrane from the tuberculous abscess of a case of hip-joint disease with pepsin in fifty-five minutes.

Dr. C. D. Jones, of Brooklyn, poured a solution of pancreatic extract (pancreatic extract, ʒ ij; water, ℥ viij) into the abscess cavity of a case of hip-joint disease one week after the operation of excision had been performed. He then wrote me as follows: "The solution was allowed to remain in place half an hour, and the result was remarkable. Upon irrigation, I washed out numerous shreds of broken-down ligamentous tissue and many spicula of dead bone that had become imbedded in the soft tissues and that had previously escaped both irrigator and curette. The wound was then flushed out with hydrogen peroxide, and this treatment was followed by a marked improvement in the patient's general condition."

Dr. L. A. Zerega applied a thick solution of pancreatic extract to the large slough of a burned wound of the chest, but four hours were required for breaking up and separation of the slough. A thick solution of the pancreatic extract applied to the large sloughs of a case of fracture of the spine failed to liquefy the sloughs after prolonged application. These two experiments were made at my suggestion and were wrong in theory, as later facts have shown. If a thin solution of pepsin could be applied to such sloughs in a proper way, they would succumb pretty rapidly; but it is only in case of sloughs situated deep in cavities that we can apply the pepsin in a practical way.

In one case in which the bladder contained blood-clots and the catarrhal mucous membrane discharged ropy muco-pus, pepsin injected for the purpose of liquefying the clots not only fulfilled its mission in that direction, but unexpectedly cleared out the muco-pus and left the interior of the bladder quite clean. The process was repeated as soon as the muco-pus again became abundant and the patient experienced a feeling of relief after the simple cleansing that pepsin afforded.

I much regret that pepsin was not used in one of my cases of empyema following a bullet wound of the chest. The chest cavity was walled off into compartments by fibrinous bands, and these compartments contained large lymph coagula which were removed with great difficulty. Pepsin would have made simple work of breaking down the bands and liquefying the lymph coagula.

It is not easy to see at a glance the whole field for digestive ferments in surgery, but we know that they are bland and harmless in any proportion, and that they will liquefy dead tissues close down to living ones, and that their action will then end abruptly. The harmless employment of digestive ferments should be the means of saving many a life that otherwise would flicker and go out under the waves of septic infection from decomposing organic matter in the depths of tuberculous abscesses. Koch's "lymph" will be an undoubted helper in some cases by virtue of its power of loosening and throwing out necrotic masses of tissue, which can then be reached with pepsin and peroxide of hydrogen, so that for some of the surgeon's cases an ideal combination exists in the group of resource materials represented by the three p's—paratoloid, pepsin, and peroxide of hydrogen.

A STONE IN THE BLADDER.

By W. H. HODGMAN, M.D.,
SARATOGA, N. Y.

As a case of vesical calculus that terminated in death without operation, and having in some respects a curious history for these days of surgical triumphs, together with some points determined post mortem, it would seem the following might be of interest to the fraternity.

On August 17, 1890, I was called to see Mr. S. Van D., merchant, sixty years of age, married, of excellent habits and family history, and the father of two children. I found him sitting in an easy chair, though looking very ill. Face bloodless and of an ashy tint; pulse, 120, small and feeble; tongue furred; temperature, 101° F. He had had a slight chill the preceding day, and complained of a feeling of prostration.

He had passed but a small quantity of urine in the previous twenty-four hours, and was suffering no pain except from a frequently recurring vesical tenesmus. He informed me he had a stone in the bladder, and had had it there, he believed, for twenty-five years; that the attack he was then having was but a repetition of many similar ones, occurring during years past, some of which had been accompanied by a swollen testicle, and once by an abscess of that organ. During all these years he had, during the acute attacks of cystitis, been under the care of physicians of all shades of irregularity, and in the intervals treated himself with various "remedies" that came under his notice. It was not until about three years previous to my first visit that, going to the office of one of our regular physicians for advice, his bladder was properly examined and a calculus discovered.

Six months subsequent to this, while in Albany one day, he called on Dr. A. Vanderveer, who, after an examination, also informed him he had a stone, too large to be crushed or taken out through the perinæum, and, after telling him of the dangers of leaving it in the bladder, advised a suprapubic cystotomy. After arriving home he determined to enter the Albany Hospital and undergo operation. However, as time passed, he finally gave up the idea of operation until this sickness, when, after my explaining to him the great danger of delay, he promised that early in the fall he would allow me to do the operation at his home. This I promised to do, provided the kidneys did not in the mean time show sufficient evidence of disease to render the operation hazardous.

The attack of cystitis and partial suppression of urine subsided in less than a week, the pulse and temperature having become normal four days subsequent to my first visit. The vesical tenesmus ceased; the urine was normal in amount and appearance. Three days later, when he was sufficiently strong to call at my office, a small sound (Thompson) touched the stone immediately on entering the bladder. I could readily map out a large stone, and with the point of the sound carefully raised it from its bed. There was no enlargement of the prostate, and the stone could be readily felt in the rectum. At this time there was no albumin shown by test, though the microscope showed a few pus cells. The urine looked perfectly clear.

From this time until called to him in his last illness I did not see him professionally. Being an active, energetic, and successful business man, he returned to his summer's work, then at its busiest. He looked well, felt well, and during the remainder of the summer and fall could, at nearly all times, retain his urine as long and pass it with as little trouble as a well man. October, when he had promised to have a cystotomy performed, passed, as did also November.

On December 7th I was called to see him, and found about the same symptoms as before, considerably aggravated, except that he had had no chill. The vesical tenesmus and suppression improved; the other symptoms did not. There was now no pain, and as the suppression ceased large quantities of urine were passed. This continued until two days preceding death. A somewhat free perspiration commenced and continued to the end. Somnolence was marked throughout the attack. The tongue, at first furred, became clean, red, and fissured, with constant dryness of the mouth. There was no headache or nausea; no pain in the back, except on deep pressure; no œdema. The urine was loaded with pus and albumin and contained some blood discs.

During this attack, lasting six weeks, though frequent microscopical examinations of the urine were made, but three casts of any description were found, one specimen containing three of the thick hyaline variety. The pulse varied between 96 and 132; the temperature on two or three occasions reached 101·5° F., yet during the greater portion of the time it was from 98·5° to 99° F., the morning and evening temperatures being, as a rule, the same.

Three times during these six weeks the heart's action became so feeble I feared a complete failure. The stomach remained in excellent condition throughout, and sufficient nourishment, principally milk, was taken. The bowels were generally regular, except for two moderate attacks of diarrhœa, each followed by a mild proctitis. Eighteen days previous to his death he was taken with a sharp pain at the lower border of the ribs on the right side. This was soon followed by a dullness on that side, extending anteriorly to within about an inch of the nipple, a little lower posteriorly. As this pain and dullness subsided, the pus in the urine was greatly increased.

A repetition of this condition occurred three or four times between the first attack and his death, the last being ushered in by a chill—the only chill he had throughout the illness. During this period Dr. Grant, of Saratoga, saw the patient twice and Dr. Vanderveer, of Albany, once, and both gentlemen agreed with me that the patient could not recover and that no operation was admissible, the latter physician predicting that after death the right kidney would be found to be nothing but a pus sac, and the left one probably seriously diseased.

The patient grew progressively weaker. Five days before the end an absolute constipation obtained; the urine became suppressed until, but a few hours preceding his death, on January 15, 1891, the somnolence gave way to coma. Twelve hours later a post-mortem was held, at which I attempted to do a suprapubic cystotomy, carrying out the technique of that operation except as to asepsis and as hereinafter stated. A rubber rectal bag introduced into the rectum was injected with eight ounces of water. It was found impossible to introduce a soft catheter within the bladder. A stiff catheter was next tried, when that too came in contact with the stone. On trying to inject the bladder through this catheter introduced as far as possible, not a drachm of fluid could be made to enter that viscus, the water forcing itself out alongside the catheter. The usual incision was now made and carried down to the prevesical fat. This being raised, intestine covered by peritonæum came into view. On pushing the intestine back, the presenting form of the stone could be seen tightly clasped by the bladder lying well down behind the pubes, and not in the least raised from its original position. The water was now allowed to run out of the rectal bag, and a full pint injected with the same result. By this method the bladder could not be moved from its original position. As no fluid could be injected into the bladder, these two procedures, so important to the surgeon in doing a suprapubic cystotomy, amounted to nothing in this case post mortem. The bladder, very thin on top, was now incised within the peritonæum. It was found to clasp the stone so tightly that a process of enucleation was required for its extraction.

With all the care I could use, a large scale of the calculus, weighing, I should judge, fully a drachm, remained in the bladder, and could only be removed piecemeal. The kidneys and ureters were then examined. The right kidney was but a bag of pus several times larger than a normal kidney. The line of demarkation between ureter and pelvis was entirely obliterated, so great was the distention. The left kidney resembled in size and general appearance two horse-chestnuts held together by a fibrous band. The lower ends of both ureters were greatly distended, the left being the larger, and both had, I believe, served the patient for a bladder during the latter portion of his life. The other abdominal organs seemed healthy. The main portion of the stone, smooth and of a brick-red color, was coated over about two thirds of its surface with a milk-white deposit, varying in thickness from a few lines to about an inch. Twenty-four hours after removal the stone weighed five ounces and sixty grains avoirdupois (2,247·5 grs.), and was in shape something like a double convex lens, measuring eight inches in its greater and seven inches in its smaller circumference.

Since the foregoing was written Dr. Vanderveer, who kindly volunteered to have the stone prepared for me writes as follows: "Regarding the specimen of stone, I have had it properly cut in two, and the nucleus is evidently oxalate of lime, quite small, but has been unquestionably a renal calculus that has passed from the pelvis of the kidney and lodged in the bladder. Around this was built up a secondary deposit of phosphate of lime, making it essentially a soft phosphatic stone in character."

LARYNGITIS IN VOCALISTS.

By RICHARD B. FAULKNER, M. D.,
ALLEGHENY, PA.

To enable a vocalist to sing when affected with subacute laryngitis is at times an important matter. To be prudent, the voice should be rested; but sometimes engagements press, chances must be taken, and the voice is used. What therapy is the best under such circumstances? The patient is hoarse, tones lost, throat sore, with a tired, heavy feeling. The laryngeal lining is congested and slightly swollen, and the pharyngeal lining is often in the same condition. This subacute laryngitis may be a simple cold or a brightening up of a chronic condition. As I am dissatisfied with the established method of treatment, a better one is now proposed.

Strychnine stimulates the motor and vaso-motor centers of the spinal cord; large doses have both direct and indirect effect upon peripheral nerves (Wood). It strengthens the heart's action, increases arterial tension, promotes capillary circulation, and relieves capillary congestion. Its use in the muscular and visceral atonies needs no mention. It counteracts the paretic state of the local blood-vessels in chronic rhinitis (Sajous). It increases acuteness of smell when applied, as by Moller, with a brush to the nasal passages. It is used in neuralgia of the larynx by Cohen. The administration of strychnine is often of very great advantage in inflammation of mucous membranes, and in bronchial asthma, for example, it powerfully assists the action of other measures.

The point to which I now wish to draw attention is that strychnine in large doses will restore the voice for temporary use with greater certainty than can be accomplished by any other means. I begin treatment in the usual way with a laxative. Then my habit is to use a one-per-cent. spray of cocaine, accompanied by aconite and aromatic spirit of ammonia internally, and the use of a lozenge, several times daily, of a formula made for me by Wyeth Brothers as follows:

℞ Morphinæ bimeconat............	gr. $\frac{1}{100}$;
Cocain. hydrochlor..............	gr. $\frac{1}{125}$;
Tinct. aconiti...........	♏ $\frac{1}{6}$;
Rad. althææ rad.................	gr. $\frac{1}{2}$.

M. Make one troche.

If under this treatment the more acute symptoms have subsided, then the effects of strychnine in restoring tone will be prompt and brilliant. In the morning of the day on which the patient is to sing, the sixtieth of a grain of strychnine should be taken after breakfast, the same after the noon-day meal, and in the evening after luncheon, and, before departing for the concert, the twentieth to the thirtieth of a grain. This for an adult man. Strychnine salts enter the blood quickly. Used in the manner indicated, strychnine gives to the spirits of the patient a very remarkable buoyancy, imparts confidence, and enables him in nearly every instance to reach and to sustain his notes with ease. The laxative depletes the laryngeal vessels, the spray quiets irritation, and, with the lozenge, protects the membrane and places the affected parts more nearly in the condition of physiological rest at the time for singing than any other line of treatment has yet been able to do in my hands. Twice in cases of vocalists of national repute I have been gratified at the pleasing results, and it is now my common practice.

Among singers the habit of using wines for stimulating the voice is growing rapidly. Our profession is not sufficiently cautious in its recommendations, while the venders of patented brands are too bold. I have never seen a case of subacute laryngitis in which I could not do better than give alcoholics. Alcoholic liquors irritate the delicate throat tissues, whether applied locally or when circulating in the blood. The habit of drinking wine of any kind is always ruinous to the singer's voice. The croaking hoarseness of the bibulous is familiar to us all. "Drink no wine," says Madame Adelina Patti. Dr. Lennox Browne, in *Voice, Song, and Speech*, strongly denounces the wine habit. And Sir Morell Mackenzie has written that "it must follow, as the night the day, that want of steadiness—*i. e.*, want of adequate co-ordinative power over the laryngeal muscles, slight at first but gradually increasing—will ensue."

Be it remembered that the dosage of strychnine, as given in this article, is advised only in cases of emergency.

Amateur Prescribing and its Results.—Acid nitrate of mercury is, doubtless, a useful external application in certain cutaneous disorders, but it is hardly the sort of thing to smear over one's body as a cure for scabies. Acting on the advice of an unlearned fellow-laborer, however, three country yokels last week purchased some quicksilver and some nitric acid, and, having mixed the two, anointed their itching skins, with the result that the coroner has had to inquire into the cause of death of two of them, while the third is simply "hanging fire." The chemist who sold the materials came in for some censorious observations, but he does not seem to have infringed even the spirit of the law. Nitric acid is an article in common use in the arts, and quicksilver is not itself poisonous. Another time, however, perhaps he will take the trouble to inquire what such things are wanted for. Had he done so in this case he would have saved two, if not three, unhappy men from an agonizing death.—*Hospital Gazette.*

The Role of the Optician.—The legal status of the optician is in France, as elsewhere, a somewhat anomalous one. In this country, so long as the functions of this craftsman are limited to determining for a customer the kind of glasses necessary to correct errors of refraction, no charge of illegally practicing the healing art can be preferred against him. But a recent judgment delivered by the Correctional Tribunal of Havre declares illegal the giving by an optician pathological information on the state of the eyesight, and the prescribing for any visual trouble a combination of lenses. In other words, the optician is free to pose as a physiologist, but he is debarred from correcting any deviations from normal vision which he may discover in a given case. This is refining with a vengeance, and I do not envy the judge who may be called upon to settle a controversy of this kind.—Paris correspondence of the *Lancet.*

THE
NEW YORK MEDICAL JOURNAL,
A Weekly Review of Medicine.
Published by D. Appleton & Co.
Edited by Frank P. Foster, M. D.

NEW YORK, SATURDAY, APRIL 11, 1891.

THE THERAPEUTIC EFFECT OF STRYCHNINE IN CARDIAC AFFECTIONS.

The *Medicinisch-chirurgische Rundschau* for February 1st has an extended notice of a recent paper by Professor Baldo Zaniboni, of Padua, on this subject. Zaniboni's article is based on a large number of clinical observations, with sphygmographic tracings, and appeared originally in the *Revista veneta*, Nos. 2 and 3, 1890. The following are his most important conclusions:

Strychnine is without question a very efficient exciter of cardiac activity. By its use the systolic impulse is strengthened, the diastole is prolonged, and attacks of arrhythmia are cut short; subsequently the arterial tension is increased and the pulse-rate, if rapid, is slowed; if retarded, is accelerated. Acute dilatation and the dangers of heart failure, especially of the right side, are removed. Respiration becomes freer, and attacks of dyspnœa are completely relieved. Only in cases in which the nervous and muscular elements of the heart are no longer susceptible of stimulation does strychnine remain without effect. Œdema, even when it has resisted treatment with digitalis, disappears quickly, and there is free diuresis without the occurrence of albuminuria, such as follows the use of strophanthus. The bodily temperature is not noticeably affected. The appetite improves and the action of the bowels is regulated in consequence of increased peristalsis. The contractility of the arteries is heightened by the vaso-motor action of the drug. The hypodermic injection of strychnine is well borne, and with careful antisepsis causes no local reaction. Beginning with one sixty-fifth of a grain, the dose may be increased to one third of a grain three or four times a day, without producing either subjective or objective disturbances. The treatment may be stopped abruptly, even when the largest doses are being given, without causing any unpleasant symptoms. The effect of the salt is seen very quickly (in about ten minutes) after the injection, and lasts for several hours. Even after the long-continued use of strychnine no symptoms were noted that pointed to any cumulative action of the drug.

HYPERPYREXIA FOLLOWING A MINOR OPERATION ON THE UTERUS.

Dr. Kelso, of Kincardine, reports in the *Lancet* for March 7th a case of curetting of the uterus for menorrhagia which was followed by inordinately high temperatures. A woman of thirty had had an excessive menstrual flow since her eighteenth year, and during the past three years had had an almost uninterrupted discharge. She had obtained but little benefit from treatment previously employed. She had become emaciated and pale. The uterus was large, retroflexed, and immobile. Dr. Kelso decided to curette, the discharge being at the time inconsiderable. With antiseptic precautions this operation was performed without any unusual phenomena, and after it the endometrium was treated by means of pure carbolic acid. The patient was enjoined to remain in bed for a week. Nevertheless, she left her bed that same afternoon and went into the garden, and even did some light work. On the second day after the operation the temperature rose to 103° F., on the third day to 105°, and on the evening of that day to 107°, and the pulse to 160. The patient became delirious and remained so for some hours, until the temperature had been brought down by a cold bath and packing. She continued to have febrile exacerbations for nine days, the evening rise of temperature, however, not exceeding 102°. At the end of the ninth day the temperature again rose to 105°, and the fever was treated with twenty-grain doses of antipyrine every three hours. The hyperpyrexia thus reduced recurred only once after that, and by degrees the normal temperature was recovered in about three weeks after the date of the operation. At her next menstrual period the flow lasted only three days and was slight in amount. The patient thereafter began to gain in strength and weight, and enjoyed better health than had been her lot during the preceding ten years.

MINOR PARAGRAPHS.

EXCISION OF THE SAC IN SPINA BIFIDA.

Several cases of spina bifida of unusual interest have recently been reported. Dr. Stewart, in the *British Medical Journal*, reports a successful operation. The tumor was of the size of a hen's egg and was situated in the lumbar region. Examination showed that there was a pedicle, and the gap in the bone was so small as to be filled with the end of the finger. Two flaps of healthy skin were dissected from the sac and a ligature was placed around the pedicle. After the sac had been opened and it had been found that its walls contained no nerves, the ligature was tied and the sac cut away. The flaps were sewed together and the wound healed by first intention. A case reported recently at the New York Academy of Medicine was of a different type, and the operation was unsatisfactory. The tumor had been tapped five times, and half an ounce of fluid withdrawn, after which it was strapped. Signs of inflammation appearing, the operation of dissecting off the sac was attempted. It was found that the filaments of the cord were firmly attached to the walls of the sac and could not be separated. A part of the sac was, therefore, removed and the incision closed. A return of the tumor is to be feared. Partial paraplegia and slight anæsthesia of the lower extremities had been noticed. Dr. Holt has observed that when there is no paraplegia, even if the tumor is large, the results of the operation are exceedingly good. The presence of paraplegia, on the other hand, renders the prospect of cure by operation very doubtful.

THE TREATMENT OF MENINGITIS.

The general principles of treatment of simple meningitis are laid down at considerable length by Dr. Barr in the *Liverpool Medico-chirurgical Journal*. There is no disease, the author believes, in which antipyretic treatment should be so promptly and efficiently carried out, and of all the means at our disposal the ice-cap is the most effective. It not only lowers the temperature, but modifies the circulation within the cranium. It should be applied until the temperature has for some time been subnormal. Tepid or cold baths are not so effective as in typhoid fever. The new antipyretic drugs are not to be relied upon. The bowels should be kept freely open, and for this purpose nothing serves so well as calomel. The vomiting is of cerebral origin and direct treatment to the stomach is usually of little avail. To relieve the restlessness and cerebral excitement the author firmly believes that there is no drug equal to opium, and that it may be administered freely. When there is fever he prescribes for an adult ten grains each of Dover's powder and salicylic acid, to be repeated every three or four hours. He has discarded bromide and iodide of potassium and chloral, a practice which the profession at large is probably not yet ready to follow. Alcohol in every form should be strictly avoided.

THE PENDING NEW YORK MEDICAL BILLS.

In our issue for March 28th we published the full text of Assembly bill No. 991, and in the same number we implied that, in our judgment, the bill was to be preferred to the law which, as things now stand, is to go into effect on the 1st of September. We also deprecated the opposition to the bill manifested in Erie County. In this issue we publish a letter from a member of the Medical Society of the County of Erie, in which he asks us to give the full text of the preambles and resolution on the matter passed by that society. It will be found in another column. We are now able to state that the meeting at which the preambles and resolution were passed was called to take action upon the death of a member, and it was not generally known that any other matter would be considered. We learn also that neither the medical faculty of the University of Buffalo nor that of Niagara University has taken any formal action in the matter, and we have good reason to believe that the latter faculty, far from opposing the Green bill, favors it, although its vice-president was the mover of the preambles and resolution in question. Our own view of the matter is precisely what it was at first, and we are glad to find evidence that such deservedly influential men as the Erie County medical profession are to a great extent of our way of thinking.

A NATIONAL ORGANIZATION OF STATE MEDICAL LICENSING BOARDS.

In view of the fact that the control of medical practice is now vested in licensing boards in twenty-one of the States, the idea has occurred to Dr. William Perry Watson, the secretary of the New Jersey board, of effecting a national organization of the members of such boards, for the purpose of making the rules and examinations as nearly uniform as possible in the various States. At Dr. Watson's suggestion, Dr. Rauch, of Illinois, has called a meeting of representatives of the different boards, to be held in Washington on the 6th of May, during the meeting of the American Medical Association. Such an organization as is proposed would undoubtedly be capable of accomplishing much good to the profession and to the community.

THE DEATH OF SURGEON BUTCHER, OF DUBLIN.

This distinguished Irish surgeon, whose fame has been more than European, died at his country residence near Dublin, on the 21st of March, in his seventy-first year. For some years past he had retired from practice, and for the last six months he had been confined to his bed. About fifteen or twenty years since he was in the zenith of his fame, and stood in the front rank of Irish surgeons. His well-known saw (Butcher's saw), suitable for amputation or excision, is known, it may be said, everywhere, while his work on *Operative and Conservative Surgery* shows the practical and accomplished surgeon. The University of Dublin conferred on him the degree of doctor in medicine *honoris causa*, and the fellows of the Royal College of Surgeons in Ireland, by electing him president, placed him in the highest position in their college. He was also an honorary fellow of the Philadelphia College of Physicians, and a member of the Royal Irish Academy. His remains were interred in Mount Jerome Cemetery on the 26th of March, the funeral cortège being attended by the leading physicians and surgeons of the city where he resided.

THE NEW YORK MEDICAL EXAMINER.

This is the title of a new monthly journal, edited by Dr. G. W. Wells, devoted to medical matters in connection with life, accident, and masonic insurance, the army, navy, police, fire-department, and pension services, railways, etc. The first number, for April, 1891, consists of fourteen large, double-columned pages of reading matter, among which much of interest to the medical profession in general is to be found. The scope of the new journal is novel, so far as we know, and the venture ought to prove successful in every sense.

THE DA COSTA LABORATORY OF BIOLOGY.

It is announced that the trustees of Columbia College have determined to devote the late Mr. Charles M. Da Costa's bequest of $100,000 to the foundation endowment of a laboratory of biology, to be built on the grounds of the medical school (the College of Physicians and Surgeons), and that the professor in charge of the department is to be designated the Da Costa professor of biology. This is an early and striking manifestation of the good likely to result from the union of the College of Physicians and Surgeons with Columbia College.

ITEMS, ETC.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported during the two weeks ending April 7, 1891:

DISEASES.	Week ending Mar. 31.		Week ending April 7.	
	Cases.	Deaths.	Cases.	Deaths.
Typhus	0	0	1	0
Typhoid fever	11	4	10	4
Scarlet fever	182	26	225	16
Cerebro-spinal meningitis	3	3	4	1
Measles	370	14	321	17
Diphtheria	82	29	94	32
Small-pox	0	0	0	0
Varicella	6	0	6	0
Whooping-cough	1	0	9	0

The Medical Society of the County of Erie on pending Medical Bills.—The following are the preambles and resolution alluded to in our issue of March 28th, passed at a special meeting of the society held on March 20th:

Whereas, The Medical Society of the County of Erie has for many years earnestly contended for a State Licensing Board for physicians; and

Whereas, The membership of this society includes the members of the medical faculty of the University of Buffalo and the medical faculty of Niagara University; and

Whereas, This society has practically been without division upon the question of having a State Licensing Board, and also upon the principle that such board should be composed of men not engaged in the work of teaching medicine; and

Whereas, After years of study and consideration the Legislature of last year did enact a law providing for a State license for physicians, the same to take effect September 1st of this year; and

Whereas, Certain bills are now pending at Albany known as Senate Bill No. 346 and Senate Bill No. 408, which have for their object and purpose postponement of the operation of the law creating the State license for physicians and the further object of placing the said licensing of physicians in the hands of certain medical schools, and in other ways changing the methods of State examination and State license in such wise as to destroy their prospect for usefulness, to the injury of the medical profession and to the prejudice of the public health; therefore

Resolved, That the Medical Society of the County of Erie, for itself and on behalf of the medical faculties of the University of Buffalo and Niagara University, unreservedly disapproves of Senate Bills No. 346 and No. 408, and urges upon our members of the Legislature to use all honorable means to prevent their passage.

The New York Hospital.—The one hundred and twentieth Annual Report of the Board of Governors, for the year 1890, has just been published. A notable statement in the report is to the effect that, of the 60,515 days of hospital care, 82 per cent. was absolutely free. It is stated that the new fire-proof building to accommodate the library, the pathological museum, and the training school for nurses is expected to be completed soon. Dr. George P. Biggs has been appointed assistant pathologist, and Dr. Prince A. Morrow one of the physicians to the class of cutaneous and venereal diseases in the out-patient department.

A Lecture on Food and its Preparation is announced for this (Saturday) evening, at eight o'clock, to be given in the Law School Building of Columbia College, by Edward Atkinson, LL. D., of Boston. This lecture is intended especially for physicians. Tickets of admission may be had on application at the Bureau of Information of Columbia College, on Forty-ninth Street.

The Fairfield County (Conn.) Medical [Association.—The ninety-ninth annual meeting will be held in Bridgeport, on Tuesday the 14th inst., under the presidency of Dr. A. E. Barber, of Bethel. Besides the president's address, papers are announced as follows: The Spinal Affections of Adolescence, by Dr. V. P. Gibney, of New York; Inoculations with Professor Koch's Tuberculin, by Dr. F. B. Downs; and The Treatment of Pneumonia, by Dr. Willis Cummings.

The South Carolina Medical Society.—In the List of State Medical Association Meetings in April, printed in our last issue, it was erroneously stated that the South Carolina Medical Society would meet in Charleston on the 11th inst. We learn that it is to meet in Anderson on June 9th.

The Death of Dr. Joseph H. Warren, of Boston, took place on the 25th of March. The deceased, who was sixty-five years old, had devoted much attention to gynæcology and to the operative treatment of hernia.

The Death of Dr. Daniel Murphy, of Brooklyn, occurred on March 24th, in the forty-sixth year of his age. He was a graduate of the University of New York, of the class of 1869.

Army Intelligence.—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from March 22 to April 4, 1891:*

Greenleaf, Charles R., Lieutenant-Colonel and Assistant Medical Purveyor, will, by direction of the Acting Secretary of War, proceed to New York city on public business, and thence to Boston, Mass., to represent the Army Medical Department at the American Association for Physical Education, and, upon the completion of the duties contemplated, will return to his station in this city. Par. 3, S. O. 67, A. G. O., Washington, D. C., March 25, 1891.

Swift, Eugene L., First Lieutenant and Assistant Surgeon, now on duty at Fort Thomas, Arizona, will, by direction of the Acting Secretary of War, report by letter to the commanding officer, Fort Grant, Arizona, for duty at that station or at Fort Thomas, Arizona, as the commanding officer may direct. Par. 7, S. O. 66, A. G. O., Washington, D. C., March 24, 1891.

Johnson, Henry, Captain and Medical Storekeeper. By direction of the Acting Secretary of War, the retirement from active service this date, by operation of law, under the provisions of the act of Congress approved June 30, 1882, is announced. Par. 5, S. O. 66, Headquarters of the Army, A. G. O., Washington, D. C., March 24, 1891.

Gibson, Robert J., Captain and Assistant Surgeon. By direction of the Acting Secretary of War, the leave of absence granted in Special Orders No. 232, A. G. O., October 3, 1890, from this office, is extended one month. Par. 10, S. O. 65, A. G. O., Washington, D. C., March 23, 1891.

Bartholf, John H., Major and Surgeon, now on duty at Plattsburgh Barracks, New York, will, by direction of the Acting Secretary of War, proceed to Fort Wayne, Michigan, and report in person to the commanding officer of that post for temporary duty. Par. 7, S. O. 64, A. G. O., Washington, D. C., March 21, 1891.

Tilton, Henry R., Major and Surgeon, is hereby granted leave of absence for one month, on surgeon's certificate of disability. Par. 5, S. O. 56, Headquarters Division of the Atlantic, March 21, 1891.

Huntington, David L., Major and Surgeon, on being relieved by Captain Henry G. Burton, Assistant Surgeon, from duty at San Diego Barracks, California, will report in person to the commanding officer, St. Francis Barracks, St. Augustine, Florida, for duty at that post, reporting by letter to the commanding general, Division of the Atlantic. Par. 5, S. O. 71, Headquarters of the Army, A. G. O., March 30, 1891.

Burton, Henry G., Captain and Assistant Surgeon, now at San Diego, California, on sick leave of absence, is relieved from further duty at Vancouver Barracks, Washington, and will report in person to the commanding officer, San Diego Barracks, California, for duty at that post, relieving Major David L. Huntington, Surgeon, and reporting by letter to the commanding general, Department of Arizona. Par. 5, S. O. 71, Headquarters of the Army, A. G. O., March 30, 1891.

Girard, Joseph B., Major and Surgeon, is, by direction of the Acting Secretary of War, relieved from duty at Fort Lowell, Arizona, to take effect upon the withdrawal of the troops from that post, and will report in person to the commanding officer, Alcatraz Island, California, for duty at that station, reporting by letter to the commanding general, Department of California. Par. 5, S. O. 70, Headquarters of the Army, A. G. O., Washington, March 28, 1891.

Hoff, J. Van R., Captain and Assistant Surgeon. The leave of absence for seven days, granted in orders No. 61, c. s., Fort Riley, Kansas, is extended twenty-three days. Par. 3, S. O. 36, Department of the Missouri, March 27, 1891.

Naval Intelligence.—*Official List of Changes in the Medical Corps of the United States Navy for the two weeks ending April 4, 1891:*

Ames, Howard E., Passed Assistant Surgeon. Promoted to Surgeon, March 19, 1891.

White, Stephen S., Passed Assistant Surgeon. Ordered to the U. S. Steamer Baltimore.

Pickerell, George McC., Assistant Surgeon. Promoted to Passed Assistant Surgeon, March 25, 1891.

Martin, William, Surgeon. Ordered to Naval Rendezvous, San Francisco, Cal.

White, C. H., Medical Inspector. Appointed Fleet Surgeon, Pacific Station.

Harris, H. N. T., Assistant Surgeon. Ordered to the U. S. Receiving-ship St. Louis.

Pickerell, George McC., Passed Assistant Surgeon. Ordered to Naval Hospital, New York.

Rush, C. W., Passed Assistant Surgeon. Ordered for duty with Inter-continental Railway Commission.

Ogden, F. N., Passed Assistant Surgeon. Ordered for duty with the Inter-continental Railway Commission.

North, James H., Jr., Assistant Surgeon. Ordered to the Navy Yard, New York.

Stephenson, F. B., Surgeon. Ordered to the U. S. Steamer Marion.

Berryhill, T. B., Passed Assistant Surgeon. Ordered to the U. S. Steamer Marion.

White, C. H., Medical Inspector. Ordered to the U. S. Steamer Baltimore.

Clark, J. H., Medical Inspector. Ordered to the U. S. Steamer San Francisco.

Hoehling, A. A., Medical Inspector. Detached from President of Naval Examining Board.

Crandall, Rand P., Assistant Surgeon. Promoted to Passed Assistant Surgeon. February 27, 1891.

Brownell, Carl DeWolf, of Bristol, R. I., commissioned an Assistant Surgeon in the Navy. April 1st.

Society Meetings for the Coming Week:

Monday, *April 13th:* New York Academy of Medicine (Section in Surgery); Lenox Medical and Surgical Society (private); New York Ophthalmological Society (private); New York Medico-historical Society (private); New York Academy of Sciences (Section in Chemistry and Technology); Boston Society for Medical Improvement; Gynæcological Society of Boston; Burlington, Vt., Medical and Surgical Club; Norwalk, Conn., Medical Society (private); Baltimore Medical Association.

Tuesday, *April 14th:* Florida Medical Association (first day—Pensacola); Medical Society of the State of Tennessee (first day—Nashville); Medical Association of the State of Alabama (first day—Huntsville); New York Medical Union (private); Medical Societies of the Counties of Jefferson (quarterly—Watertown), Oneida (quarterly—Utica), Ontario (quarterly), Rensselaer, and Tioga (quarterly—Owego), N. Y.; Newark, N. J., and Trenton (private), N. J., Medical Associations; Bergen (annual—Hackensack), and Cumberland (annual), N. J., County Medical Societies; Fairfield, Conn., County Medical Association (annual—Bridgeport); Baltimore Gynæcological and Obstetrical Society.

Wednesday, *April 15th:* Mississippi State Medical Association (first day—Meridian); Medical Association of Georgia (first day—Augusta); Iowa State Medical Society (first day—Waterloo); Florida Medical Association (second day); Medical Society of the State of Tennessee (second day); Medical Association of the State of Alabama (second day); Northwestern Medical and Surgical Society of New York (private); Medico-legal Society; Metropolitan Medical Society (private); Harlem Medical Association of the City of New York; New Jersey Academy of Medicine (Newark); Windom, Conn., County Medical Society (annual—Plainfield); Middlesex, Mass., South District Medical Society (annual—Waltham).

Thursday, *April 16th:* Mississippi State Medical Association (second day); Medical Association of Georgia (second day); Iowa State Medical Society (second day); Medical Society of the State of Tennessee (third day); Medical Association of the State of Alabama (third day); New York Academy of Medicine; New Bedford, Mass., Society for Medical Improvement (private); Brooklyn Surgical Society; Tolland, Conn., County Medical Society (annual).

Friday, *April 17th:* Mississippi State Medical Association (third day); Medical Association of Georgia (third day); Iowa State Medical Society (third day); Medical Association of the State of Alabama (fourth day); New York Academy of Medicine (Section in Orthopædic Surgery); Baltimore Clinical Society; Chicago Gynæcological Society.

Saturday, *April 18th:* Clinical Society of the New York Post-graduate Medical School and Hospital.

Answers to Correspondents:

No. 350.—We are not aware of any book on obstetrics in which the question of the amount of force possible to be brought to bear on the fœtal neck is discussed, and for the very good reason that there is no situation in obstetrics in which, in our opinion, it is warrantable to make any considerable traction on the neck. Possibly, however, you have reference to the amount of force that can be brought to bear on the *head.* If that is the case, we would refer you to Charpentier's *Traité pratique des accouchements*, vol. ii, page 641.

No. 351.—We would recommend Professor T. Gaillard Thomas's recently published *Lectures on Abortion.*

No. 352.—You are certainly right in the statement that bogus medical diplomas have been sold in this country—unfortunately, in great numbers. We hope that the trade has now been stopped; certainly it has been checked.

Letters to the Editor.

MUSCULAR ASTHENOPIA AND PROFESSOR ROOSA.

Burlington, Vt., *March 31, 1891.*

To the Editor of the New York Medical Journal:

Sir: I desire to invite the attention of your readers to a single feature of Professor Roosa's reply to my article on Muscular Asthenopia. The extracts from his paper printed below are representative of his method of discussing scientific matters. It is extraordinary that twenty-five years' experience in ophthalmology should result in this species of misrepresentation.

AS THESE CASES APPEAR IN THE ORIGINAL REPORT.[*]	AS THEY APPEAR AFTER PROFESSOR ROOSA'S MANIPULATION OF THEM.[†]
Case V.—Mr. F. A. B., Franklin, Vt., October 25, 1889. Headache after reading. Completely tired out after reading. Obliged to give up college owing to this trouble, which has persisted for several years. His general health is in other respects fairly good. Right eye injured in early life. Occasional diplopia. Says right eye turns in after using his eyes for near work. No relief from treatment by physicians or oculists. R. V. = $\frac{20}{20}$; L. V. = $\frac{20}{20}$. Exophoria, 4; in accommodation, 5; abduction, 11; adduction, 12. Hm. + 0·25 in each eye. Loaned prism 2°, base in, for each eye for near work. *November 29th.*—Left hyperphoria, $\frac{1}{2}$; exophoria, 4; in accommodation, 6; abduction, 12; adduction, 10. R. V. = $\frac{20}{20}$; C. + 0·50, ax. 90, V. = $\frac{20}{20}$; L. V. = $\frac{20}{20}$; C. + 0·50, ax. 90, V. = $\frac{20}{20}$. *30th.*—Exophoria, 4; in accommodation, 5; abduction, 12; R. V. = $\frac{20}{20}$; C. + 0·50, ax. 90, V. = $\frac{20}{20}$; L. V. = $\frac{20}{25}$; C. + 0·50, ax. 90; V. = $\frac{20}{20}$. *December 2d.*—Exophoria, 4; in accommodation, 4; abduction, 12. Graduated tenotomy in right external rectus. Immediate result, exophoria, 0; esophoria, 0; abduction, 6. *3d.*—Exophoria, 3; in accommodation, 2; abduction, 8. Under atropine, C. + 0·50, ax.	Case V.—A gentleman, age unstated, headache after reading, occasional diplopia, vision in each eye $\frac{20}{20}$, a quarter of a diopter of astigmatism in each eye. A prism is ordered 2°, base inward. In about two weeks the right external rectus is divided, and prisms are used for exercising the internal recti. In about two months this patient has given up his glasses, has no headaches, and his health is better. This is undoubtedly a good case, but one would not like to cause a great deal to depend upon it. An operation was proposed for him, but it was rejected. He also seems to have been an astute patient, for he recovered without it. To my mind, the diplopia in this case probably depended upon hyperopic astigmatism. Finally the patient will find an oculist who will correct his astigmatism, and he will leave off the awkward prisms and be more comfortable.

---

[*] Muscular Asthenopia. J. H. Woodward. *New York Medical Journal*, Feb. 7, 1891.

[†] Constitutional Conditions combined with Ametropia the Cause of Asthenopia. D. B. St. J. Roosa. *N. Y. Med. Journal*, March 28, 1891

90, gave normal V. for each eye. Ordered that correction.

February 17, 1890.—Eyes very much improved; do not trouble him much now. Less nervous, no headache after reading, but is sleepy and weary after reading for a number of hours. Exophoria, 4; in accommodation, 5; abduction, 11; adduction, 10.

18th. — Exophoria, $2 > 3$: in accommodation, $6 > 8$; abduction, 10; adduction, 12. At this examination patient did not show exophoria until it had been developed by prisms —*i. e.*, it was latent. Loaned prisms for exercising the internal recti.

April 26th. — Saw patient to-day. Reports that he can read as long as he wishes without glasses, without fatigue or nervousness. His symptoms have disappeared. He prefers to read without glasses. He exercised the internal recti with the prisms for about four weeks.

October. — Saw patient again. He is still relieved and reads as much as he likes without glasses. He has never worn the glasses constantly.

December 15th.—He writes: "I am able to read without the aid of glasses, having none of those former symptoms of feeling sleepy or tired; also my head does not ache; my health is better, which I attribute to my eyes."

Case VI.—Mrs. G. B. A., Burlington, Vt., March 14, 1890. Asthenopia. Headache and nausea and feeling of strain in eyes. The pain begins in forehead and temples, and if she persists in reading or sewing she has pain in the back of her head and a general headache. General health excellent with above exceptions. R. V. $= \frac{6}{5}$; rejects glasses. L. V. $= \frac{6}{5}$; rejects glasses.

Media clear, fundus normal; no error of refraction detected with ophthalmoscope. Right hyperphoria, 1; esophoria in accommodation, $\frac{1}{2}$; abduction, 9. Loaned prism, 1°, base down, for right eye, to use in reading.

March 27th.—No error of refraction detected. Right hyperphoria, 2; exophoria, 4; exophoria in accommodation, 4. To continue with the prism which gives her comfort in reading. Operation proposed; refused.

April 7th.—She received her reading glasses. Right, prism 1°, base down; left, prism $\frac{1}{2}$°, base up.

December 9th.—She writes: "The glasses which you prescribed for me several months ago are satisfactory in every respect. I am able to read with them for any length of time without causing the least uncomfortable feeling in my eyes or head."

Case VI.—The last case is that of a lady, age unstated, with asthenopia and headaches. General health excellent; vision normal; rejects all glasses. No error of refraction detected with the ophthalmoscope. A prism is ordered of 1°, base down, for the right eye, and for the left a half degree, base up. Nine months after she is able to use her eyes for any length of time without any uncomfortable feelings.

This is the only case of the series in which no tenotomy has been performed; the strength of the prisms will be noted—one degree in one, and half a degree in the other. As I said in my original article, I still can not understand how prisms so weak as this will have any more than a suggestive result in treatment. If they have, cylindric glasses will do better.

I seriously ask the student of asthenopia to look over the six cases in the light of these criticisms, and answer if he can find in them any ground for the justification of the value of graduated tenotomies or prisms. I can not.

The age of the patients was not given, for the reason that it has no bearing upon the symptoms or treatment. For Professor Roosa's benefit, however, I will now state that the patient in Case V is about twenty-eight years old, and the one in Case VI is about thirty-three. I will also add that Case V had been under the care of one of Professor Roosa's pupils, who had utterly failed to give the patient any relief whatever. Even the casual reader will note that in Case VI the relief was *immediate* and due solely to the prisms, and that it was *continuous* from March 27 to December 9, 1890, when I last heard from the patient.

As regards the ophthalmometer of Javal, the *ex cathedra* enunciations of Dr. Lewis and the asseverations of Professor Roosa do not vitiate the force of the strictures made upon it in my paper. Perhaps one of those gentlemen will favor the profession with a few detailed histories of cases in which he has detected and measured an astigmatism with that instrument which could not have been detected and measured by the other methods in daily use. In this matter the burden of proof rests on their shoulders. J. H. Woodward, M. D.

THE NEW NEW YORK MEDICAL BILL.

Buffalo, N. Y., *April 2, 1891.*

To the Editor of the New York Medical Journal:

Sir: The last number of your valuable Journal gives editorial indorsement to what you are pleased to denominate "The New New York Medical Bill." In the same paragraph you also let your readers know that the Medical Society of the County of Erie and the medical faculties of the University of Buffalo and of the University of Niagara are opposed to this same bill, and that in your valuable opinion this opposition, in part at least, is unreasonable.

Before making a few remarks upon your criticism of the position taken by our medical society, the third largest in the State, and our medical faculties, one one of the oldest and most honored in the country, and the other one of the most energetic, outspoken, and uncompromising advocates of higher medical education, let me call your attention to a loose and improper use which your Journal makes of the word "New York." In your issue for March 28, 1891, just at hand, page 382, you make use of the word in your designation of the proposed medical law, "The New New York Medical Bill," as if the name New York meant the State, while I am inclined to think the writer intended to refer to the city only.

My reason for so thinking is strengthened by your use of the same word in the leading editorial article in the previous issue, March 21, 1891, page 337. In a most suitable and well-considered article, entitled The Teaching of Hygiene in the United States, you say: "But not one of the New York medical schools makes any pretense of giving a course in hygiene."

In this sentence you must mean the city only, as you could not be ignorant of the fact that the medical faculty of the University of Buffalo has given a course in hygiene for nearly a quarter of a century, or of the equally well-known fact that at the University of Niagara there has been a course in hygiene from its first year.

To your correspondent, at least, this is confusing, and in general it can scarcely be considered edifying.

For instance, if you mean that the new bill is to relate to your city only, you must consider our Western criticism quite impertinent, whereas, if we are right in holding the proposed law a matter of interest to the people of the State of New York, then it would seem hardly graceful on your part to withhold from your readers the official action of our society, and yet take pains to designate such action as unreasonable.

Under the circumstances, inasmuch as we are all good friends and readers of the Journal, would it not, perhaps, be proper for you to let your readers see the official action of our society (inclosed you will find the preamble and resolutions, in case you have lost that already sent you), and then, in fairness to our teachers of hygiene, let your readers know with what geographical meaning you use the word New York? Forasmuch as the matter may possibly concern the people of the State of New York, the medical profession, and the public health, I should like to send you a few lines upon some of the reasons why we "unreservedly disapprove" of your so-called New New York Medical Bill. H. R. Hopkins, M. D.

⁂ Concerning our use of the word New York, in each of the instances cited by our correspondent the context seemed to us to show our meaning unmistakably, and we are still confident that our readers understood what was meant; but our correspondent might have made his criticism more striking if it had occurred to him to conjure up a trilemma instead of a dilemma, for surely he can not be ignorant of the fact that there is a New York *county*.

As to the justice of our remarks upon the merits of the bill, what we have to say will be found elsewhere in this issue.

Proceedings of Societies.

NEW YORK SURGICAL SOCIETY.

Meeting of February 25, 1891.

The President, Dr. Charles K. Briddon, in the Chair.

Irreducible Dislocation of the Shoulder treated by a Bloody Operation.—Dr. F. Lange presented a patient the history of whose case he had given at a previous meeting. He was, he said, presenting the man with a view of demonstrating the result which had been obtained by operative interference. It would be noticed that, though the motions were to a certain extent limited, yet the general functional result was good. There were still some pain and weakness in the joint, which was at times a drawback to the man, who was a shoemaker by trade.

Ligature of the Right Common Iliac Artery for Aneurysm of the External Iliac, and Other Important Cases, with their Lessons, was the title of a paper read by Dr. Joseph D. Bryant. (To be published.)

Dr. Lewis A. Stimson said he felt that the methods of the treatment of aneurysms, so far as the abdominal vessels were concerned, would have to be revised in the light of modern advances. The old operation by which the iliacs were reached would probably have to be abandoned in many cases in favor of direct approach across the abdominal cavity. He referred to a case presented to the society about three years before, in which he had so tied the external iliac.

Dr. John A. Wyeth thought that Macewen's method by the introduction of needles into the aneurysmal sac and the irritation of its walls, which had been favorably reported upon, was worthy of attention for the treatment of some of these large and not well-determined abdominal aneurysms. Of course this treatment could not have been carried out in the case reported by Dr. Bryant.

Fracture of the Thyreoid Cartilage, Rupture of the Crico-thyreoid Membrane; Tracheotomy, Wiring, Recovery.—The President presented the following history, by Dr. Frank Le Moyne Hupp: A laborer, thirty-eight years old, admitted to the Presbyterian Hospital, in the service of Dr. Briddon, on January 23, 1891. While he was engaged at work and stooping over an open elevator shaft, the descending floor of the elevator had struck him on the head and neck. His chin was forced violently down upon his chest, he felt a sharp pain in the front part of his neck, and soon after he found breathing growing more difficult and noticed the right side of his face and neck beginning to swell. On his admission he was somewhat cyanotic, the breathing was laborious and noisy, there was frequent and convulsive cough, the expectoration was of aerated blood and mucus, the countenance was anxious, and the lips were livid. There was almost complete aphonia. Swallowing was difficult and painful. There was an emphysematous condition of the subcutaneous connective tissue and apparently of the intermuscular spaces over the right and left lateral regions of the neck, extending up over the right side of the face and completely closing the right eye. All pain was referred to "Adam's apple." On examining the mouth and fauces, the mucous membrane was found covered with tenacious mucus and was puffed up in such a way as to allow only a small aperture for the ingress of air. The respiratory murmur over the large air-tubes was loud and harsh, with occasional mucous râles, but their character was masked by the loud snoring noise in the larynx. The emphysema spread steadily over the anerior part of the neck and down over the thorax as far as the nipple zone. Before any considerable swelling had occurred anteriorly, positive evidence of fracture of the thyreoid cartilage was made out, consisting of crepitus and false point of motion. The patient was put to bed and watched. At three o'clock in the afternoon the dyspnœa and cyanosis became so extreme that, under ether narcosis, Dr. Briddon performed tracheotomy. Through the retracted margins of the wound there could be seen a fracture separating the two alæ of the completely ossified thyreoid cartilage; there was also a rupture of the crico-thyreoid membrane. A single silver-wire suture was passed through the thyreoid's alæ, and the fragments were thus held in apposition. The tracheotomy tube was adjusted and an antiseptic dressing applied. In three days the emphysema had entirely disappeared. On the tenth day after the operation the patient could breathe well with a cork in the opening of the tube. On the eleventh day the tube was removed. Convalescence from this point had been uninterrupted. The patient had recovered his speech, but there was some huskiness to his voice. He was discharged, cured, on February 6th.

Removal of the Supra-orbital Nerve for Obstinate Neuralgia.—Dr. Stimson showed a patient who had, a year before, sustained a compound fracture of the skull, from which injury he had recovered without any untoward symptoms at the time. Subsequently, however, there had developed severe pain in front of the head, with vertigo. On inquiring into the details, the speaker had found that the pain was limited to the area of distribution of the supra-orbital nerve, and he had therefore exposed the nerve at the supra-orbital notch and torn out, the rupture taking place about two inches back in the orbit. The patient had since then been entirely free from his neuralgia and vertigo.

Dislocation of the Left Os Innominatum.—Dr. Stimson presented another patient who, last September, had been injured in the pelvis by being run over by a very heavily weighted wagon. The left os innominatum had been dislocated backward at the symphysis pubis and at the sacro-iliac junction. The lacerations about the perinæum were the most extensive the speaker had ever seen. The anus was entirely separated from the adjoining skin, the lower segment of the rectum hung free in the laceration, and the urethra was torn into shreds. A finger could be passed through the gap to the symphysis pubis. The patient had gone on, however, to recovery, and he could now walk quite well. Slight displacement of the bone could still be recognized posteriorly. The perineal wound had closed, except for a small fistula, which allowed a few drops of urine to escape. The speaker said he had dealt with several very bad cases of injury to the perinæum, with fracture of the pubic bones, and in all of them the restoration of the canal of the urethra had been complete or nearly complete.

Intussusception.—Dr. Charles McBurney presented a boy, thirteen years old, who, on January 17th last, immediately after a bath, had fainted, vomited, and continued to vomit during the remainder of the day. Abdominal pain was complained of and tenderness on pressure to the right of the umbilicus. These signs, together with constipation, had continued up to the afternoon of the 19th, when the speaker saw him first. No stool had occurred for several days. Marked rigidity of the abdominal muscles was noted, and there was tenderness over a considerable area to the right of and below the umbilicus. No tumor could be made out. Large enemata were given with a long rectal tube with the patient in the knee-elbow posture. No result was obtained, excepting a few fæcal shreds and flatus. Slight distention existed. On the following day the signs described were still more marked. Another enema was given with the long tube, but with no result. The temperature at this time was 99·2° F., and the pulse 118. The boy had an anxious look and was evidently in great pain. Retention of urine existed. He was a congenital deaf-mute, and therefore could not describe his sensations. It was evident that a serious bowel obstruction existed, but it was not easy to define the exact nature of the obstruction. Ether was given on the 20th. As soon as the abdominal muscles relaxed under the influence of the anæsthetic it was easy to make a positive diagnosis of intussusception, for a thick, very movable, elongated tumor could be readily felt to the right of the umbilicus. This tumor could easily be rolled across the posterior abdominal wall. A median incision from the umbilicus to the pubes was made, and the tumor almost immediately came into view. It consisted of invaginated small intestine, about four inches of gut being invaginated, and the location was about two feet above the ileo-cæcal valve. The intussuscepted portion was quite readily reduced by compression of the tumor without traction. Intense congestion, with some fibrinous exudation, existed on the portion that had been intussuscepted. The wound was closed with heavy silk sutures, and, as a considerable quantity of serous exudation occupied the pelvis, the speaker introduced a glass drainage-tube at the lower end of the wound. This tube was removed at the end of twenty-four hours. On the second day a large loose movement occurred, and the bladder recovered its function. A sharp attack of pneumonia of the right lower lobe set in, but was well borne by the patient.

Tubercular Teno-synovitis.—Dr. McBurney then presented Mary G., twenty years old, who had come under his care at the Roosevelt Hospital on December 16th last. A well-defined ganglion, apparently circumscribed and of the size of a small hen's egg, had existed for two years on the back of the right wrist. A longitudinal incision was made directly down to the sac, which was dissected out in every direction. It was then found to extend nearly to the metacarpo-phalangeal articulations and several inches up the forearm. All the tendons of the extensor communis were involved. The diseased tissue was entirely dissected away, leaving the tendons completely bare throughout the length of the incision. The skin wound was closed with silk sutures without drainage, rubber tissue being applied over the incision, and the limb was treated in the elevated position on an anterior splint. Primary union occurred. Passive motion was begun at the end of three weeks. The functional result as now exhibited was nearly perfect.

Dr. McBurney then presented a man, twenty-nine years old, who had suffered from large, irregular, elastic, crepitating swellings on the backs of both wrists, extending down to the metacarpo-phalangeal articulations. The right wrist was operated upon on November 26th last. A large oval flap was made over the back of the wrist and the sacs were completely dissected out. All the common extensor tendons and the tendon of the extensor secundi internodii pollicis were involved. The skin wound was closed with silk sutures, no drainage being used, excepting that at three points in the line of incision a catgut suture was so applied as to keep open a small point for the exit of discharges. The hand was treated on an anterior splint in the elevated position. Aseptic healing occurred and passive motion was begun on December 14th. The left wrist was operated on on December 17th by a long vertical incision measuring about six inches. The common extensor tendons were all involved. All diseased tissue was dissected away and the wound treated as on the right side. Complete aseptic healing occurred and passive motion was begun at the end of three weeks. The functional results in both these cases were eminently satisfactory.

Dr. F. Kammerer said he had had good results from the injection of iodoformic ether into the tuberculous sacs after incision of them.

Dr. Wyeth thought that early operative interference should be insisted upon, because general tuberculous infection might occur at any time if the original focus of the disease was not removed.

Dr. McBurney said that the treatment by injection was a tempting method, but that in the majority of cases much of the diseased tissue was of such a consistence as to preclude the possibility of the injected material reaching it effectively. A perfect result could not often be expected from the method.

Dr. A. G. Gerster thought that operative methods were invariably called for in these cases. He had found, in comparing the different forms of after-treatment, that the effect was infinitely better where no drainage whatever was employed; the restitution of function was more perfect, the organization of blood-clot was more prompt, and there was less cicatricial formation.

Dr. Stimson said he could add his testimony as to the good results obtainable by the removal of tuberculous sheaths. He had operated upon a patient in whom the disease had extended well up the forearm, and in that case the removal of the tendon sheaths had been necessary throughout the palm of the hand, together with extensive dissection up the forearm. In six months afterward perfectly free motion was restored. If these cases were given a little time, the restitution of motion was usually very good.

Dr. Lange mentioned two cases in which recurrence of the disease had taken place after operation, not immediately, but in one or two years. One of these cases was a tubercular tenosynovitis of the flexor tendon of the little finger. The disease had returned, but had remained stationary for some two years, the patient being still under observation.

Dr. Kammerer said that the difficulty of entirely removing the tuberculous tissue from beneath the tendons in cases of widespread disease had led him to the employment of iodoform injections. In these cases he advocated the use of iodoform ether because he also had seen recurrences after excision of the masses and suture. Where the disease was not so extensive, the more radical procedure ought to be preferred.

The Treatment of Inoperable Malignant Growths with the Aniline Dyes.—Dr. Willy Meyer presented a patient, seventy-one years of age, who had entered the German Hospital for epithelioma (rodent ulcer) of the nose in February, 1886. He was operated upon there in the course of that and the two following years a number of times by Dr. Gerster and Dr. Lange. Twice rhinoplasty was performed by taking the flap from the forehead, and the speaker had subsequently to amputate the second nose thus artificially made, as the cancer returned each time after the patient had been submitted to an operation. In July, 1889, he was sent to the country branch of the New York Skin and Cancer Hospital at Fordham Heights. In four different interferences with the knife and cautery attempts were made by the speaker to stop the spread of the growth, but without success. As a radical operation would have required the removal of a portion of both lower eyelids and one upper lid, and as the wounds thus established could not possibly be closed by a plastic operation or by grafting, and in their consequences might have destroyed both eyes, the speaker had at last abstained from further operations and had tried to check the growth by chemical applications. But, in spite of all trials, the ulcer became more aggressive, especially toward the end of last year, when the upper lip became perforated at one small spot. At that time they had seen great help in a very obstinate ulceration of the dorsum of the foot from a half-per-cent. solution of fuchsine, as it had just been recommended by D. Rosenberg in the *Medical Record* of December 13, 1890. Following the suggestion of Dr. Amos C. Lewis, the medical superintendent at Fordham Heights, they had begun to use the fuchsine solution on this patient on January 6th of this year; they had first used a 1-to-200 alcohol, then a 1-to-200 lanolin solution, as the latter would be easier applied and caused less smarting.

On January 30th, this year, von Mosetig-Moorhof had read a very interesting paper before the Society of Physicians at Vienna, A Contribution to the Treatment of Inoperable Malignant Growths. He had reported a number of inoperable, entirely hopeless patients who had been successfully treated by him for a number of weeks with parenchymatous injections of blue pyoctanin (methyl-violet), the aniline dye which was introduced from microscopy into practical use in the living by Stilling, of Strassburg, a year ago. There was also in the market a yellow pyoctanin (auramine), but it was of much inferior germicidal power. A few of von Mosetig-Moorhof's patients were at the time presented to the society. They had been injected with from a drachm to a drachm and a half of a 1-to-500 or 1-to-300 pyoctanin solution every second or third day.

After reading von Mosetig-Moorhof's somewhat marvelous results the speaker had thought that the presentation of this patient might perhaps be of interest, as he had been much benefited by this new treatment—viz., the dyeing treatment of inoperable malignant growths. Fuchsine did not readily dissolve in water, but did in alcohol. If properly made, it should not contain arsenic. Pyoctanin was also absolutely harmless. The latter was best applied on the surface of large ulcerated neoplasms in substance, powdered, and on smaller ones with the wetted large blue pencil made by the firm of Merck & Co. It there formed a dry eschar and nearly always stopped the secretion at once, on account of its very strong antiseptic power. It was at the same time an analgesic. Since February 20th the speaker had been trying pyoctanin on his inoperable patients at the Skin and Cancer Hospital.

He should like to divide the results of the fuchsine treatment as seen in this patient up to date into subjective and objective changes. Of the first there was only one, but a very striking one. The patient's previous pains had nearly subsided. His sleep, frequently disturbed in former times, had thus become unbroken. The objective changes were extremely interesting. The base of the sore, which formerly was irregular and nodulous, studded with white epithelial, decomposing masses—in short, presented all the characteristics of an ulcerated epithelioma—had now become smooth and even in nearly all its parts, rather resembling a granulating surface; a number of originally deep grooves had filled up and were now shallow; the border, before hard and thick, had softened in many spots by this mere external application of the drug; the former abundant secretion had lost its offensive smell and had nearly ceased. This latter change had become manifest after the first days of the application. But what seemed to him to be the main feature of the "dyeing treatment" in this case was the fact that the aggressive character of the growth had been checked and seemed, up to the present time, to a great extent at least, under control. The ulceration had not advanced, except on the left cheek, where, besides the formation of a small, hard nodule in the immediate neighborhood of its border, it had increased in size. External applications evidently could not do any good there or were insufficient. The perforation into the mouth, mentioned before, had not become any larger during these seven weeks. So far, the fact seemed to have been established that an aggressive malignant ulcer could be checked and changed in its characteristic symptoms with the aniline dyes. He now intended to add parenchymatous injections into the border of the wound, and would make use of the blue pyoctanin, as it was more soluble in water. He would continue to treat and observe this case very carefully, and would present it again to the society after some time.

Dr. Stimson said that his attention had been directed some two years before to the use of ozone water as a means of destroying the fœtid odor and checking the exuberant growth in these cases of cancer. Such investigation as he had been able to make had led him to conclude that the ozone water was only a solution of peroxide of hydrogen, which latter he had employed, using the fifteen-volume solution mixed with three of water, and throwing this into the substance of the growth with a hypodermic syringe. This had obtunded the pain, diminished the odor, and caused a distinct change in the growth itself. The ozone water he had not found to give such pronounced results.

Dr. Gerster said that some time before he had in his hospital service instituted a series of carefully conducted experiments with both the blue and the yellow pyoctanin Physiologically, the results had been negative, with the exception of some transient skin manifestations, such as erythema and urticaria. In acute lymphatic troubles, chronic enlargement of the lymphatic glands, and so forth, the effect had been for the most part negative. In a case of parotiditis one injection a day had been given for five days, and the tumor had disappeared or become very much smaller. In a number of cases of cancer of the breast and other actively malignant growths, in which the tumors were still not ulcerated, no effect was noticed and the growths had continued. He thought that the effects observed in ulcerating tumors were due directly to the antiseptic action of the remedy, which eliminated the sources of active disintegration. It was possible, however, that he had not used the injections in sufficient strength.

Simultaneous Ligation of both External Carotids for Myxo-sarcoma of the Naso-pharynx.—Dr. Bryant presented a patient with the following history: The patient was a printer, aged twenty-nine, of good family and personal history. In 1884 he noticed the usual symptoms indicative of the existence of a polypoid obstruction of the left nostril. In 1885 the actual existence of such a growth was demonstrated by a medical gentleman, who soon after removed a portion of it with a forceps. From this time until 1888 portions of the growth were removed at varying intervals with forceps and snare; and during this time, too, the extent of the attachment and the nature of the growth were frequently determined. It was a myxo sarcoma, as determined by microscopical examination. It was attached to the basilar process of the occipital bone, to the posterior and left wall of the pharynx, also to the palate bone and the internal pterygoid plate of the sphenoid bone. In November, 1886, a spontaneous and very severe hæmorrhage occurred from it. At this time the growth was increasing in size more rapidly. A little later a second and severer hæmorrhage occurred; this, too, was spontaneous and was checked only after the anterior nares and the pharynx were tamponed. In fact, the patient was nearly exsanguinated by this loss of blood. In February, 1888, a third attack occurred at night, which was arrested in the same manner as the preceding. This attack confined the patient in bed for eight days. On May 5, 1888, the patient suffered more severely than usual from pressure symptoms referable to the hard and soft palate, and also to the supramaxillary and auriculo-temporal branches of the fifth pair. For months before this time, and with increasing severity, pain had existed in the pharynx. At this time the patient could not breathe through the nostrils. The tumor filled the upper part of the pharynx so completely that the index finger could be introduced only with difficulty between it and the right side of the wall of the cavity, and the act was often followed by quite severe temporary hæmorrhage. The pressure of the growth on the hard and soft palate had caused a well-marked inferior convexity of these structures, especially of the latter. A small bony spiculum was seen protruding from the inferior surface of the soft palate at the junction of this structure with the hard palate. Anodynes were required at this time to quiet the patient, and often to insure sleep, on account of pain and nervous irritation. The appetite had decreased, and marked and increasing emaciation was apparent. The patient now refused further attempts with the snare and begged for a radical operation—which had been promised him—irrespective of the outcome. Therefore, on June 19, 1888, the external carotids were ligated simultaneously in the presence of many of the house staff of Bellevue Hospital. The wounds healed by primary union. At the end of a week all pain had ceased and the size of the tumor had diminished to such a degree that not only had the previous bulging of the palate caused by it disappeared, but the index finger could easily explore the dimensions and determine again the attachments of the growth. And, too, these examinations were followed by slight oozing only, barely sufficient to discolor the finger. On the 28th the left superior maxilla was removed below the orbital plate, thus exposing the left side of the tumor quite completely; and, although the bone was removed nine days after the ligating of the external carotids, but one arterial spurt of sufficient size to require ligature occurred during the entire procedure, and this was at the situation of the anastomosis of the facial and ophthalmic arteries.

The snare was employed again, and also strong injections of carbolic acid. The latter removed portions of the structure of the growth quite rapidly by a process of inoffensive sloughing and disintegration. Finally the injection caused such a severe pain that the use of it was discontinued. For the last two years the growth had diminished slowly in size without treatment of any kind. At present the patient suffered no inconvenience and no pain whatever from the tumor. Before the operation there had been severe pain with profuse bleeding during the period from 1884 to 1888. The points in this case might, therefore, the speaker thought, be summarized in this way: 1. There had been no pain since the vessels were tied, in 1888. 2. There had been no hæmorrhage since that time. 3. The tumor had undergone no increase, but steady diminution, in size. 4. The patient no longer suffered any annoyance referable to the growth, and had not done so since the operation. 5. Did not these facts suggest the wisdom of simultaneous ligation of the external carotid arteries as a preliminary to the removal of vascular naso-pharyngeal polypi?

NEW YORK ACADEMY OF MEDICINE.

SECTION IN OBSTETRICS AND GYNÆCOLOGY.

Meeting of February 26, 1891.

Dr. E. H. Grandin in the Chair.

Sarcomatous Abdominal Tumor.—Dr. F. Krug exhibited a sarcomatous tumor, between twenty and thirty pounds in weight, which he had recently removed from the abdominal cavity of a woman thirty-one years of age. The development of the growth had been very rapid, for it had only been noticed about a year previous to the operation. The operation itself had seemed a success, but the very bad general condition of the patient had been, no doubt, in a great degree responsible for the fatal issue. Reaction was prompt, and the patient seemed in a fair way for recovery when, on the fourth day, heart complications set in, and death took place on the sixth day.

Dr. A. F. Currier said that he had had a similar experience only a few weeks before, and he was led to wonder if it was wise to operate in such cases, as the result was almost always fatal. According to eminent authority, heart lesion always existed with such large malignant growths. If such was the case, the speaker thought that this class should be excluded from that of operable cases.

Dr. G. M. Edebohls thought that, as a rule, if any diathesis was present, it would be brought actively into play after a laparotomy. He therefore judged it proper to watch his cases for several months after operation. He had had two cases in which pericarditis had developed after laparotomy; both patients had recovered. In these cases there was no sign of sepsis that could account for the heart complication.

Dr. R. A. Murray thought that if the blood supply to the tumor could be secured early in the operation, a great loss of blood would be prevented. Of course this could not be done in a case where the adhesions were very great, as in the case that Dr Krug had presented. As to the question of operation, he thought it would be very wrong not to give the patients the only chance they had for their lives. In the case of Dr. Krug's patient the speaker had been present at the operation and had watched the case, and was satisfied that if it had not been for the heart trouble she would have got well. He concurred in the opinion that in cases of large growths there was likely to be a diseased condition of the heart, hypertrophy, which, when the pressure was relieved by removal of the growth, was followed by dilatation. Under such circumstances to stimulate the heart, as suggested, would be bad.

Dr. Krug said that as to the propriety of operating in such cases he would first put the conditions before the patient and her friends and let them decide; for his part, he would advocate giving the patient the only chance for recovery. He used the Trendelenburg posture in such operations, and was convinced of the advantages to be gained by it.

Ventral Fixation of the Uterus.—Dr. Currier desired to describe a method of fixation of the uterus to the abdominal wall for the relief of retroflexion, a modification of the Olshausen-Sänger operation. It had been tried in one case, the operation having been done about two months before. The result thus far had been all that could be desired. The patient was a nullipara, twenty-five years of age, and had been under observation more than two years. About a year ago Schultze's operation for the relief of the retroflexed and adherent uterus had been performed, but the result was not such as to warrant approval of that method of procedure. The pain in the back and pelvis and the dysmenorrhœa had finally become so unbearable that the patient had expressed her willingness to undergo any operation which promised relief. The abdomen was opened and dense adhesions were found in the pelvis. A thin-walled cyst of the right ovary, as large as a base-ball, was found, and was ruptured in the course of its removal. The left ovary was enlarged to at least twice the natural size; but this was not removed, the patient having expressed the earnest desire that one of the ovaries should be left if possible. The uterus having been freed, a silver wire (No. 26) was passed through each cornu at points just interior to the uterine openings of the Falloppian tubes. The entire thickness of the fundus uteri was included in each suture, which was passed a sufficient distance below the uterine opening of the tube to prevent its occlusion should exudate collect around the suture. One end of the suture was then carried through the abdominal wall at a point midway between the two extremities of the abdominal wound and an inch exterior to its border. A long-handled needle was then thrust through the abdominal wall at a point an inch above the point of emergence of the wire referred to, and at the same distance from the border of the abdominal wound as the latter. Through the eye of this long needle the remaining end of the wire suture was passed and the latter withdrawn with the needle through the puncture which had been made. A suture having been thus passed through each cornu, the uterus was drawn forward to the abdominal wall by traction upon the two sutures, the ends of each suture were twisted, the abdominal wound was closed, and the ends of the wire sutures before mentioned were brought together across the abdomen and twisted directly over the abdominal wound. The uterine sutures were removed in two weeks, the uterus being firmly fixed behind the symphysis pubis. Considerable exudate formed around the uterus, but this disappeared in less than a month. The patient had been quite free from the backache, pain in the pelvis, and dysmenorrhœa from which she had suffered so, had gained decidedly in weight, and hoped that she might become pregnant.

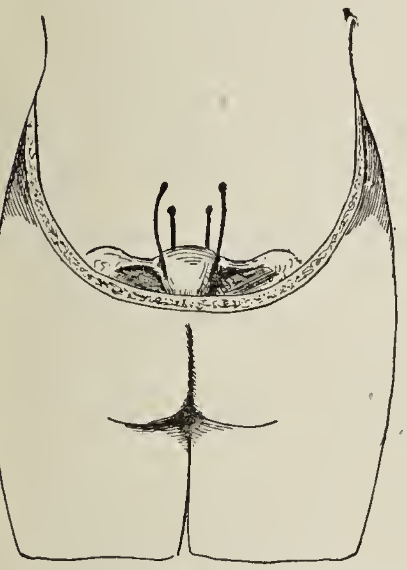


Fig. 1.—Vertical section of the uterus seen from behind. Sutures pass through the fundus uteri interior to and below the openings of the Falloppian tubes, and emerge at dotted points on the abdominal surface.

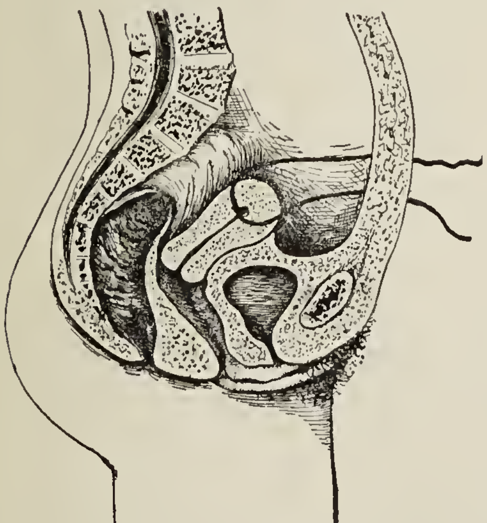


Fig. 2.—Antero-posterior section of the uterus, showing the course of the suture and its emergence at dotted points on the abdominal surface.

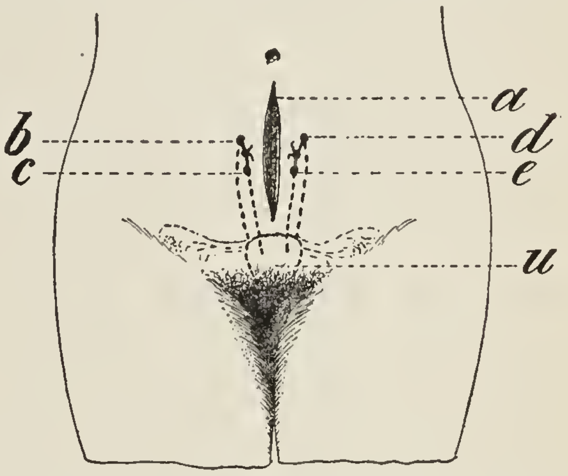


Fig. 3.—Diagram showing the relation of the uterine sutures to the abdominal wound. *a*, the abdominal wound; *b c* and *d e*, points on the abdominal surface from which the ends of the sutures emerge; *u*, the uterus.

The use of silver wire for such operations was believed to be very desirable on account of its aseptic, non-irritating properties. Sims had long ago referred to these advantages, and the profession might yet go back to his standpoint. Sutures passed in the manner described exerted the minimum of tension, this tension being equally distributed at the four points of emergence of the sutures through the abdominal wall. The method seemed to the speaker freer from objections than any of those which had thus far been recommended; certainly it was more satisfactory than any which had been tried by him. [The accompanying diagrams illustrate the passage of the sutures through the uterus and their attachment upon the abdominal wall.]

Dr. Krug, for such operations on the uterus, used the silkworm gut, as it was less likely to cut through, could be made quite aseptic, and was altogether much more quickly and easily applied. He had abandoned the silver wire and did not use it for any purpose.

The Chairman said that the single suture had been previously used by several operators, but, so far as he knew, to Dr. Currier belonged the silver-wire suture in this particular operation. He preferred the silkworm gut for plastic work; it could easily be sterilized in a hot carbolic solution, and was much more pliable to handle.

Demonstration on the Manikin of the Atmospheric Tractor, a Substitute for the Forceps.—Dr. P. McCahey, of Philadelphia, prefaced his remarks by exhibiting his tractor and the method of application on a fœtal cadaver. The instrument consisted simply of a soft-rubber disc, three inches in diameter, with a small knob on the outside by which it was manipulated. Its action was that of suction; it was pressed upon the head of the child until all the air was driven out, and the cup adhered closely to the scalp. The traction force furnished by the instrument as demonstrated was from twenty-five to thirty pounds.

To increase the power a larger disc could be used. The speaker was satisfied that when the method became known it would be used in a great many instances where the forceps now held sway. The advantages of the pneumatic tractor were the easy application, which could be made in five minutes when the os was dilated to two inches, and its absolute freedom from danger to the mother and child. The method was applicable in all cases of labor, as it hastened normal labor, and in abnormal conditions gave the obstetrician a leverage by which many such could be converted into a normal form and delivery very materially facilitated. In many cases of normal labor where, after examination, he had decided in the usual way that the labor would not be terminated for two hours, he had applied the tractor and delivered the woman in a few minutes. He had never seen any bad results of thus hastening labor, either to the mother or to the child. Rupture of the perinæum had never taken place where he had used the tractor; this, he thought, was due to the fact that the pressure had not been allowed to remain for a long time, as usual, on these parts, and also that the head had been guided so as to prevent its weight from bearing on the perinæum. The instrument could be applied at any stage of labor, provided the os was dilated to a size which would admit the instrument at the superior strait or anywhere in the parturient canal. As it required only one hand to manipulate it, the other hand was free to make external assistance. The instrument had the advantage over the forceps of not doing any harm to the tissues of the woman, and also of not producing any pressure of the head of the child.

Dr. M. McLean said that in taking up any new instrument it should be looked at from every point of view. He should imagine that there would be a great deal of difficulty in the application of such an instrument, especally at the superior strait. He did not see how the hastening of labor would prevent rupture of the perinæum, and did not think Dr. McCahey's explanation of the disappearance of pain after the application of the tractor very satisfactory. One of the advantages he thought he could see from the use of the instrument was that of having better control of the head and being better able to bring it into proper position. He thought for this purpose it would be better than the forceps.

Dr. J. H. Fruitnight thought that in thus hastening labor there would be great danger of post-partum hæmorrhage.

Dr. Murray did not see how the instrument could be applied high in the pelvis with two fingers, and thought that, if the whole hand had to be introduced into the vulva, much pain and harm would result. He thought that traction would be difficult with the hand outside of the vulva, as the knob of the instrument was not of sufficient length to admit of grasping it firmly with the fingers. He could see that much might be done in the way of controlling or changing the position of the head with the tractor. He did not see how it could have as much traction force as the forceps. In the case of a fixed head, he asked if it would be able to bring it down. He could not understand how, in the case of caput succedaneum, the instrument could get suction, as it was necessary for the surface upon which it was applied to be firm. Even if it was possible, might not capillary rupture take place when traction was made?

Dr. J. C. Edgar saw two conditions where the method might be valuable—where the head was low and the woman's powers had given out, so that little traction was required, and where the aim was to keep the head from advancing too rapidly. The instrument offered a handle by which one could manage the head better than with the fingers in the rectum.

Dr. E. V. Agramonte thought that the means offered an advantage in conjoined manipulations, that the head could be controlled better by the tractor and the fingers in the vagina than in the old way. He did not think, however, that it could take the place of the forceps in cases where traction was really necessary.

Dr. I. H. Hance related a colleague's experience with the tractor in the case of a primipara. It was found impossible to apply the tractor so that suction would take place until the surface of the head was exposed at the vulva. In this case every effort was made to test the efficacy of the instrument, but failure had resulted. It might be of use in multiparæ in aiding the delivery, but it certainly was difficult to apply it at the superior strait in the primipara.

Dr. H. L. Collyer thought it not at all unlikely that the tissues of the mother might be included in the part grasped by the instrument. He did not think that it would be a good thing to get the lip of the cervix drawn down by the tractor.

Dr. W. E. Forest thought that if children could be handled in this way it would be a good thing, but he was satisfied that the efficacy of the method would not supersede that of the forceps.

The Chairman said that of course all the objections were necessarily based on theory, as none of the speakers had ever used the method, and the author of the instrument had been unable to fully demonstrate his principle, but still he was satisfied that the tractor would fill the sphere where the forceps failed; that its use would be found most efficient in contracted pelves. As to the probability of the instrument sticking, he had fully satisfied himself of its power, but he was not sure but that injury might be done to the parts where it was applied. For instance, if it was applied over a presenting fontanelle, might it not produce a hernia cerebri?

Dr. McCahey thought there was less danger of post-partum hæmorrhage taking place when the tractor was applied than when delivery was accomplished without it, as labor was hastened and the placenta was not detached, as it was where contractions were allowed to go on for hours. The tractor might be used in all cases of labor in conjunction with any of the usual means for the safe and prompt delivery of the patient. It could not, of course, be applied at the brim with two fingers, and could not be adjusted at all until sufficient dilatation had taken place to allow of its passing into the cervix. It could not be used until the membranes were ruptured, as it had to be in contact with the scalp of the child. Finally, he asked that the tractor be given a fair trial, feeling sure that labor could be hastened and the suffering of patients very materially shortened by its use.

Book Notices.

Altes und Neues in der Therapie. Akademische Antrittsrede gehalten in der Aula der Universität Tübingen am 27. Februar, 1890. Von Dr. Hermann Vierordt, a. o. Professor der Medizin. Tübingen: Franz Fues, 1890. Pp. 3 to 26.

Believing with Giorgio Baglivi that "medicine is not a creation of the human understanding, but a daughter of Time, developed by long experience," the author searches for the wide-spreading roots of our tree of medical knowledge in the land of the never-to-be-forgotten past. Aristotle, Isocrates, and, in more modern times, Avicenna, believed in the contagion of tuberculosis, and the prophylactic laws promulgated by the city of Naples in 1782 were nearly Draconian in their severity.

Change of air then, as now, was laid down as beneficial to the consumptive, and we find Pliny sending his patients on long sea-voyages, even to Egypt. The famous Oertel Schweninger cure for obesity is but a distant echo of the teachings of Hippocrates and of Pliny. Hypnotism is the daughter of animal magnetism, massage and gymnastics are as old as time and so universally accepted that the untutored savage practices them, while the cold-water cure is but a revival of the methods of Hahn and Currie. The fundamental principles themselves are the epitomized form of several thousands of years' learning, and greater than all is the old saying of Sûsruta that "the perfect doctor is the offspring of the union of medicine with surgery, and whosoever is ignorant of one of these branches is like unto a bird with but one wing."

Die Protozoen als Krankheitserreger. Von Dr. L. Pfeiffer, Geh. Med. Rath und Vorstand des Grossh. Sächs. Impfinstituts in Weimar. Mit 34 Abbildungen im Text und 1 Tafel. Jena: Gustav Fischer, 1890. Pp. iv–100.

After a comparative study of the various diseases produced by protozoa in the animal and vegetable kingdoms, the author feels warranted in concluding that a most important step has been made toward the understanding of many previously incomprehensible infectious conditions.

The tolerance of the host for its invading parasite is frequently of indefinitely long duration. The cellular nucleus may remain intact or be slowly resorbed, but, as a rule, participates little, if at all, in the ensuing hypertrophy. The cell itself gradually cedes its place to the parasite, whose number, multiplication, vitality, and continued existence depend largely upon the sanitary conditions of the host and in general upon the surrounding media. A radical difference in the infection of the epithelium of plants and of animals consists in the fact that in the former the disease is almost exclusively localized, the plant's existence being rarely, if ever, endangered, and but little of that cellular new formation takes place which in animals produces such enormous growths, as in epithelioma contagiosum.

The adaptability of the parasite is often most remarkable, its form and size depending largely upon those of the cell as well as upon the nature of the invaded tissue—epithelium, muscle, blood-corpuscle, etc.—and varying as the parasite passes from one system to another or from a state of freedom to one of encystment.

Examination of Water for Sanitary and Technical Purposes. By Henry Leffmann, M. D., Ph. D., Professor of Chemistry in the Woman's Medical College of Pennsylvania, etc., and William Beam, M. A., Demonstrator of Chemistry in the Pennsylvania College of Dental Surgery, etc. Second edition, revised and enlarged, with Illustrations. Philadelphia: P. Blakiston, Son, & Co., 1891. Pp. vii–9 to 130.

The authors have incorporated into this new edition the methods of qualitative analysis recommended by the Chemical Section of the American Association for the Advancement of Science, so that there may be some uniformity in analytical data; they also recommend an investigation of the Kjeldahl process for determining the organic nitrogen present "in order that a basis for the interpretation of results may be obtained." The section on the biological examination of water, while better than in most works on this subject, is still somewhat brief. The section on the purification of drinking-water is quite good, and in it the authors incidentally do justice to the biological examination of potable water before and after filtration.

The volume concludes with valuable analytical data. The work is an excellent one, and will be of value not only to chemists, but to health officers and to all physicians interested in sanitary subjects.

Auscultation and Percussion. By Frederick C. Shattuck, M. D. Detroit: George S. Davis. [The Physician's Leisure Library.]

Dr Shattuck has given us a very attractive little manual. Physicians will find it convenient for ready reference. The style is clear, the arrangement is excellent, and the statements of opinion, without being too dogmatic, are evidently based upon the author's personal experience. The introduction of Weil's well known diagrams serves to enhance the value of the work.

A Compend of Diseases of Children. Especially adapted for the Use of Medical Students. By Marcus P. Hatfield, A. M., M. D., Professor of Diseases of Children, Chicago Medical College. Philadelphia: P. Blakiston, Son, & Co., 1890. Pp. 185. [Price, $1.]

This compend, according to the preface, is based upon a work of Kormann's, translated many years ago, a fact which probably explains some of the surprising statements that it contains. It seems strange that an American writer upon pædiatrics of to-day should find it necessary to go to an obsolete German work for inspiration. The peculiar combination of English and Latin throughout the work has the one merit of rendering it interesting. It is to be regretted that books of this character should fall into the hands of medical students.

Miscellany.

Foreign Medical Practitioners in the British Colonies.—We are indebted to the *New York Daily News* for the following extract from *Reports from the Consuls of the United States*, No. 124:

"The following is a *résumé* of the conditions under which foreign medical practitioners are at present admitted to practice in the British colonies: In most cases local registration is compulsory, and for this fees, which vary in different colonies, are usually charged.

"Dominion of Canada.—*Ontario:* Medical or surgical degree, or diploma from college approved by the medical council, or registration as foreign practitioner in United Kingdom. *Quebec:* Course of at least four years' medical study before receiving the foreign diploma. *Nova Scotia:* Any medical diploma which satisfies the provincial medical board. *New Brunswick:* Proper diploma of any sort. *Prince Edward Island:* Proper diploma granted in Great Britain, Ireland, British colonies, or any country in Europe. *British Columbia:* Not admissible. *Manitoba:* Passing of examination before committee or registration in United Kingdom. *Northwest Territories:* Not admissible. *Newfoundland:* No restriction.

"Australasia.—*New South Wales, Queensland, and Victoria:* Regular course of study of not less than three years' duration in a school of medicine, together with diploma, degree, or license, after due examination, from some university or college recognized for that purpose in the country to which it belongs, entitling to practice medicine in that country, or (in Victoria) registration in the United Kingdom. *Tasmania:* Registration in United Kingdom. *South Australia:* Registration in United Kingdom or diploma considered by medical board equal thereto. *Western Australia, New Zealand, and Fiji Islands:* Registration in United Kingdom.

"British West Indies and British South America.—*Jamaica:* Passing examination in the colony, or, in the case of a person not registered in the United Kingdom, the holding of a diploma, license, or certificate conferring or evidencing the possession by him of any qualification in respect whereof he would be entitled to be so registered. *British Honduras:* Registration in United Kingdom or diploma from college or institution of known repute. *British Guiana:* Registration in United Kingdom. *Bahama Islands:* No restriction; must pay fee of £10 for permission to supply medicines. *Trinidad and Tobago:* Regis tration in United Kingdom or satisfactory diploma and examination by medical board. *Barbadoes, Grenada, St. Vincent, and St. Lucia:* Registration in United Kingdom. *Leeward Islands:* Not admissible, except in Dominica, where diploma from recognized body in Europe or America is recognized. *Bermuda Islands:* Registration in United Kingdom, or regular diploma, or qualification after examination by university or school of medicine of known standing and character. *Falkland Islands:* No provision.

"British Africa.—*Cape of Good Hope and British Bechuanaland:* Possession of certificate satisfactory to Government. *Mauritius:* Degree or diploma of foreign university and passing examination entitling to practice in country in which degree or diploma has been obtained. *Natal:* Registration in United Kingdom; otherwise as in Mauritius; annual license fee of £5. *St. Helena:* Registration in United Kingdom. *Sierra Leone:* No restriction. *Gold Coast and Lagos:* Not admissible.

"British Possessions in Europe.—*Gibraltar:* Certificate or other satisfactory proof to governor of due qualification to practice medicine. *Malta:* Registration in United Kingdom. *Cyprus:* Diploma from recognized school of medicine.

"British Asia.—*Ceylon:* No restriction. *Hong-Kong:* Diploma which may be found satisfactory after full examination by medical board. *Straits Settlements:* Registration in the United Kingdom."

The Congress of American Physicians and Surgeons.—The meetings will be held in Washington, from 3 to 6 p. m., on September 22, 23, 24, and 25, 1891.

Mortality in Cities in the United States.—The following table represents the mortality in the cities named, as reported to Dr. John B. Hamilton, Surgeon-General of the Marine-Hospital Service, and published in the Abstract of Sanitary Reports for April 3d:

CITIES.	Week ending—	Population, U. S. Census of 1890.	Total deaths from all causes.	DEATHS FROM—										
				Phthisis pulmonalis.	Yellow fever.	Small-pox.	Varioloid.	Varicella.	Typhus fever.	Enteric fever.	Scarlet fever.	Diphtheria.	Measles.	Whooping-cough.
New York, N. Y.	Mar. 28.	1,513,501	895	124	..	..	..	1	..	3	28	16	12	11
Chicago, Ill	Mar. 28.	1,099,133	934	54	.	.	..			16	14	18	6	2
Philadelphia, Pa	Mar. 21.	1,046,964	463	54		..		..	..	30	7	9	..	1
Brooklyn, N. Y	Mar. 28.	806,343	424	51	..		..	..	..	..	12	10	10	6
St. Louis, Mo	Mar. 21.	460,357	....	....	..	..	..	.		..	2	4	2	....
St. Louis, Mo	Mar. 28.	460,357	....	17	..	..	..	..	..	1	1	4	6	...
Boston, Mass	Mar. 28.	448,477	196	13	..	..	..	..	..	1	5	5	..	2
San Francisco, Cal	Mar. 21.	298.997	126	18	.	..	..	..	.	5	..	9	..	....
Cincinnati, Ohio	Mar. 27.	296,908	78	20	..	..	..		..	2	..	1	1	...
New Orleans, La	Mar. 14.	241,995	116	13	..	.	..	..	..	..	..	1	2	....
New Orleans, La	Mar. 21.	241,995	114	14	..	..	..	..	..	..	.	2	3	....
Washington, D. C	Mar. 21.	230,392	123	24	..	..	..	..	..	3	1	..	3	....
Washington, D. C	Mar. 28.	230,392	125	....	..	.	..	..	..	6	..	1	7	2
Detroit, Mich	Mar. 28.	205,669	80	6	..	..	..	..	..	..	1	8	..	.
Milwaukee, Wis	Mar. 28.	204,150	86	8	..	..	..	..	..	2	..	6	1	....
Minneapolis, Minn	Mar. 28.	164,738	79	....	..	..	..	.	.	..		3		....
Louisville, Ky	Mar. 21.	161,005	72	. ..	.	..	..	..	..	2	..	1	..	....
Louisville, Ky	Mar. 28.	161,005	60	6	..	.	..	..	..	..	..	1	..	1
Kansas City, Mo	Mar. 28.	132,416	56	5	..	..	..	..	..	2	..	1	.	....
Providence, R. I	Mar. 28.	132,043	37	....	..		..	..	..	..	1	..	1	1
Indianapolis, Ind	Mar. 27.	107,445	47	5	..	..	..	..	..	..	..	2	1	....
Toledo, Ohio	Mar. 27.	82,652	28	2	.	..	..	..	..	1	..	2	.	....
Fall River, Mass	Mar. 28.	74,398	34	2	..	..	..	..	.	..	1	1	..	....
Charleston, S. C	Mar. 21.	54,592	36	3	..	..	..	..	..	..	..	..	..	1
Portland, Me	Mar. 28.	36.608	9	....	..	..	..	..	..	..	1	..	..	...
Binghamton, N. Y	Mar. 28.	35,093	13	4	..	..	.	..	..	..	..	..	..	....
Yonkers, N. Y.	Mar. 21.	31,945	10	2	..	..	..	..	..	1	..	.	..	....
Mobile, Ala	Mar. 28.	31,822	12	2	..	..	.	..	..	..	..	..	..	....
Altoona, Pa	Feb. 7.	30,269	9	....	..	..	..	..	..	..	..	..	..	....
Altoona, Pa	Feb. 14.	30,269	8	....	..	..	..	..	..	..	..	..	..	....
Altoona, Pa	Feb. 21.	30,269	7	....	..	..	..	..	1	..	..	..	..	....
Altoona, Pa	Feb. 28.	30,269	12	....	..	..	..	..	..	..	..	..	..	....
Altoona, Pa	Mar. 7.	30,269	8	....	..	..	..	..	..	..	..	..	..	....
Altoona, Pa	Mar. 14.	30,269	9	....	..	..	..	..	..	..	..	..	..	....
Galveston, Texas	Mar. 13.	29,118	6	....	..	..	..	..	..	1	..	..	..	....
Galveston, Texas	Mar. 20.	29,118	8	1	..	..	..	..	..	..	..	..	1	....
Auburn, N. Y	Mar. 28.	25,887	4	1	..	..	..	..	..	..	..	..	..	....
Newport, R. I.	Mar. 26.	19,449	13	1	..	..	..	..	..	..	..	..	..	....
San Diego, Cal	Mar. 21.	16,153	6	....	..	..	..	..	..	..	..	..	..	....
Pensacola, Fla	Mar. 21.	11,751	3	1	..	..	..	..	..	1	..	..	..	....

The Phonograph in Medicine.—The applicability of the phonograph to the record and demonstration of defects in speech has been well illustrated during the past week at the Royal Medical and Chirurgical Society and at the Hunterian Society. At the first-named, Dr. Hale White and Mr. Golding-Bird were enabled by means of this instrument to allow the Fellows present to hear the curiously defective speech of two children, and to contrast this with the improvement effected by treatment, for the subjects were present, and after the phonograph had given their past utterances, their present speech was demonstrated *vivâ voce.* The papers read by the above gentlemen and that by Dr. F. Taylor led to an instructive debate, which was further illustrated by some marked cases introduced by Dr. Hadden. The outcome seemed to be that these defects in articulation are probably of central origin, and not due to any mechanical interference with the organs of speech. Whether, as suggested by Dr. Langdon Down and Mr. Spencer Watson, the defect was primarily one of audition is a question certainly worthy of consideration. Another point raised was whether the defect should be considered one of speech or language, and some exception was taken by Dr. Taylor, Dr. Pye-Smith, and others, to the use of the term "idioglossia," which, however, was ably defended by Dr. Hale White. The other phonographic demonstration at the Hunterian Society was by Dr. Hughlings Jackson, who thus reproduced the characteristic speech of a subject of cerebro-spinal sclerosis. There can be little question that the phonograph will ultimately prove very useful, especially in the preservation of certain anomalies of articulation, and its further extension to other sound phenomena in the range of clinical medicine may be justifiably hoped for.—*Lancet.*

To Contributors and Correspondents.—*The attention of all who purpose favoring us with communications is respectfully called to the following:*

Authors of articles intended for publication under the head of "original contributions" are respectfully informed that, in accepting such articles, we always do so with the understanding that the following conditions are to be observed: (1) when a manuscript is sent to this journal, a similar manuscript or any abstract thereof must not be or have been sent to any other periodical, unless we are specially notified of the fact at the time the article is sent to us; (2) accepted articles are subject to the customary rules of editorial revision, and will be published as promptly as our other engagements will admit of—we can not engage to publish an article in any specified issue; (3) any conditions which an author wishes complied with must be distinctly stated in a communication accompanying the manuscript, and no new conditions can be considered after the manuscript has been put into the type-setters' hands. We are often constrained to decline articles which, although they may be creditable to their authors, are not suitable for publication in this journal, either because they are too long, or are loaded with tabular matter or prolix histories of cases, or deal with subjects of little interest to the medical profession at large. We can not enter into any correspondence concerning our reasons for declining an article.

All letters, whether intended for publication or not, must contain the writer's name and address, not necessarily for publication. No attention will be paid to anonymous communications. Hereafter, correspondents asking for information that we are capable of giving, and that can properly be given in this journal, will be answered by number, a private communication being previously sent to each correspondent informing him under what number the answer to his note is to be looked for. All communications not intended for publication under the author's name are treated as strictly confidential. We can not give advice to laymen as to particular cases or recommend individual practitioners.

Secretaries of medical societies will confer a favor by keeping us informed of the dates of their societies' regular meetings. Brief notifications of matters that are expected to come up at particular meetings will be inserted when they are received in time.

Newspapers and other publications containing matter which the person sending them desires to bring to our notice should be marked. Members of the profession who send us information of matters of interest to our readers will be considered as doing them and us a favor, and, if the space at our command admits of it, we shall take pleasure in inserting the substance of such communications.

All communications intended for the editor should be addressed to him in care of the publishers.

All communications relating to the business of the journal should be addressed to the publishers.

Original Communications.

A CLINICAL REPORT OF OPERATIVE SURGERY IN THE SERVICE OF DR. WILLIAM T. BULL,
AT THE NEW YORK HOSPITAL,
During October and November, 1889, and from February to June, 1890.

By WILLIAM B. COLEY, M. D.,
LATE HOUSE SURGEON.

The large number of abdominal cases possessing points of unusual interest and importance that occurred during this period gave rise to the idea of publishing a short history of the cases which should contain all the salient features.

An effort has been made to avoid verbosity on the one hand without sinking to the level of mere statistics on the other.

The original intention of including only abdominal cases was subsequently abandoned, and when the interest seemed sufficient to warrant, other cases have been given in more or less detail, the ordinary cases being summarized or tabulated in order to make the report as complete as possible.

The main classification has been made upon an anatomical basis as regards the *field* of operation, while the various subdivisions have reference to the different pathological conditions present.

The total number of operations was 326. Of these, 75 were performed upon the abdomen, 45 upon the head, face, and neck, 37 upon the thorax, 26 upon the rectum and anus, 58 upon the genito-urinary organs, 28 upon the upper extremities, 46 upon the lower extremities, and 11 miscellaneous.

The total number of deaths was 18, or a mortality of 5·5 per cent. Of the 18 fatal cases, 11 belong to the miscellaneous abdominal cases, in many of which the patients were *in extremis* at the time of operation.

Among the important abdominal cases may be mentioned a pylorectomy and gastro-enterostomy for large carcinoma of the stomach, followed by recovery, the patient being alive and well nine months after the operation; and an abdominal section, with recovery, in two cases of acute and septic peritonitis, general.

Anæsthesia.—Ether was used in 305 cases, chloroform in 12, and cocaine in 9. The preference was given to chloroform in children and in the abdominal cases in which the patients were already weak and suffering from more or less shock at the time of operation. In every case the chloroform gave satisfactory results, and the anæsthesia was followed by much less nausea and vomiting than when ether was used.

OPERATIONS UPON THE ABDOMEN.

There were seventy-five operations upon the abdomen, with a total mortality of 18·4 per cent.

Of this number, ten were for cystic disease of the ovaries or broad ligament, with no deaths. Thirty-five were for hernia of different varieties, with two deaths. In both fatal cases the operation was done for prolonged strangulation, and in one case (very large strangulated umbilical) the complication of diabetes and advanced chronic parenchymatous nephritis existed.

Although the miscellaneous cases, twenty-three in number, show the high mortality of 47·8 per cent., many of the patients were *in extremis* at the time of the operation.

A careful analysis of these cases shows the causes of death to have been as follows:

In three cases death was due to acute intestinal obstruction, in all of which peritonitis had already developed before operation, and in one case there was the additional complication of a fracture of the spine and femur.

Peritonitis following cholecystotomy in two cases, and hæmorrhage and shock following operation for large abscess of left lobe of the liver in one case, caused three deaths.

The remaining fatal cases are: One pistol-shot wound of the abdomen, when immediate laparotomy was performed with the hope of arresting dangerous internal hæmorrhage, but the patient died almost as soon as the abdomen was opened; one death from hæmorrhage and shock following nephrectomy for advanced tuberculosis of the kidney; one death following laparotomy for advanced tubercular salpingitis and peritonitis; one death from peritonitis following operation for recurrent perityphlitis; and one death from septic general peritonitis caused by a suppurating adenoma of the ovary.

OPERATIVE METHOD.

In all the operations upon the abdomen the general plan pursued may be summarized as follows:

Preparation of the Patient.—For two or three days preceding the operation the bowels were mildly purged and the diet carefully regulated. In some few cases, where the operation was to be long and the conditions were favorable for serious shock, free stimulation, either by the mouth or by the rectum, was resorted to. The field of operation was carefully cleansed with soap, water, and ether several hours before the operation, and a large wet dressing of 1-to-2,000 bichloride-of-mercury solution applied.

Antisepsis.—The instruments were always boiled for half an hour or more just previous to the operation, and during the operation were kept in a tray containing either boiled water or a 1-to-1,000 solution of hydronaphthol. The sponges were kept in boiled water, and no antiseptics were used during the operation. The abdomen was irrigated only in those cases where there was some special indication. The abdomen was opened eleven times without the use of drainage, and warm water was employed to wash out the abdomen in about half the cases. A small amount of 1-to-10,000 bichloride-of-mercury solution was used in a few cases where peritonitis was already advanced.

Drainage.—The glass tube was used in almost all cases where drainage was needed, but in several cases, especially where there was any tendency to oozing from broken adhesions, a tampon of iodoform gauze was inserted alongside the tube and allowed to remain from twenty-four to forty-eight hours.

Abdominal Suture.—The peritonæum was sutured with a continuous catgut suture, the muscles with catgut interrupted sutures, and the skin by a separate line of interrupted silk sutures.

After-treatment.—As soon as the patient was taken to the ward, if there was any evidence of shock, the body was surrounded with hot-water bottles, and hot water and whisky were given by the rectum. During the first twenty-four hours nothing was given by the mouth except a little hot water or cracked ice. In most cases very little, if any, morphine had to be given. On the second day liquid food in very small quantities was given. The drainage-tubes were removed on the second or third day. The sutures were taken out from the eighth to the tenth day.

On the fourth day, earlier if tympanites was present, the bowels were freely moved by small and frequently repeated doses of Rochelle salts. In a few cases, where the operation was followed by pain in the abdomen accompanied by some rise in temperature, the ice-coil was applied, and in almost every case the symptoms quickly subsided.

Complications.—In one case the adhesions were so very extensive that dangerous hæmorrhage ensued a few hours after the operation. The wound was partially reopened, without anæsthesia, and a very large tampon (several yards) of iodoform gauze introduced. This controlled the hæmorrhage, but a few days later a fæcal fistula appeared at the wound and remained open three weeks, finally closing spontaneously.

In one case, in cutting through the parietal peritonæum, the intestine, which was slightly adherent beneath the line of incision, was wounded for a distance of an inch and a half. The opening was quickly closed with silk sutures. The patient made a good recovery. In another case, where the adhesions had become numerous and well organized (a case of tubercular peritonitis and salpingitis), the autopsy showed a small perforation of the bladder, with escape of urine.

In a fourth case, one of acute intestinal obstruction, no cause for obstruction could be found at the operation, but a very careful examination at the autopsy revealed a fracture of the spine in the lower dorsal region with no displacement. This had evidently caused intestinal paralysis, but had caused no other symptoms.

All the operations were performed in the amphitheatre, and after the operation the patients, with a few exceptions, were taken to the general wards.

NEOPLASMS.

Cystic Tumors of the Ovary; Complicated Cases.—The main points of importance in the cases belonging to this class will be found summarized in the accompanying table. A few of the cases deserve special mention. Of these, the first was a case of colloid cysts of the ovaries with salpingitis.

Case I.—The patient was a women twenty-eight years old, married, but had never borne children; she had had several miscarriages. Her general health was good up to within a year previous to admission, when she had an attack of pelvic peritonitis; since then she had had two or three recurrent attacks with an increase in severity. She was admitted in November, 1889. Nothing could be felt in the abdomen externally, but, by vaginal examination, a mass of about the size of an orange could be felt on either side of the uterus. The uterus itself was moderately fixed.

Operation, November 20, 1889.—The contents of the pelvis were firmly matted together by old, organized adhesions. On the right side, in the region of the ovary, was found a cyst of about the size of an orange and filled with colloid material. In the same region on the left side there was a somewhat larger cyst, containing clear yellow serum. The ovaries could not be recognized, but the tumors, along with the Falloppian tubes, were removed. The hæmorrhage from broken adhesions was considerable, but controlled by cautery and iodoform tampon, which was introduced alongside of the glass drainage-tube. The operation was followed by severe shock, but the patient made a good recovery. The glass tube was taken out at the end of twenty-four hours, and the iodoform tampon two days later. A sinus remained at the site of the tube, and has resisted several subsequent attempts to close it. The pathologist's report showed that ovarian structure was present in the masses removed. Four weeks after the operation the patient began to menstruate, and has continued to do so at regular intervals since.

Case II. *Multilocular Cyst of the Ovaries; Rapid Enlargement; Loss of Flesh and Strength; Conditions simulating Malignancy.*—The patient was a woman fifty-three years of age, married, and the mother of four children. She had been well up to within a year previous to entering the hospital, when she first noticed pain in the right iliac region. Three months ater a swelling appeared in the same locality, and increased steadily in size. The loss of flesh and strength was rapid and progressive. For the last six weeks there had been symptoms of pressure upon the bladder and rectum, together with a bloody discharge from the uterus. For nearly a year menstruation had been slightly more frequent than usual, and more profuse, and recently had shown considerable odor.

At the time of admission the lower portion of the abdomen was occupied by a spheroid tumor, smooth, fluctuating, slightly more prominent on the right side, and extending three inches above the umbilicus. By the vagina the cervix was felt low down and abnormally hard. Douglas's *cul-de-sac* was filled with a hard, smooth mass, apparently solid.

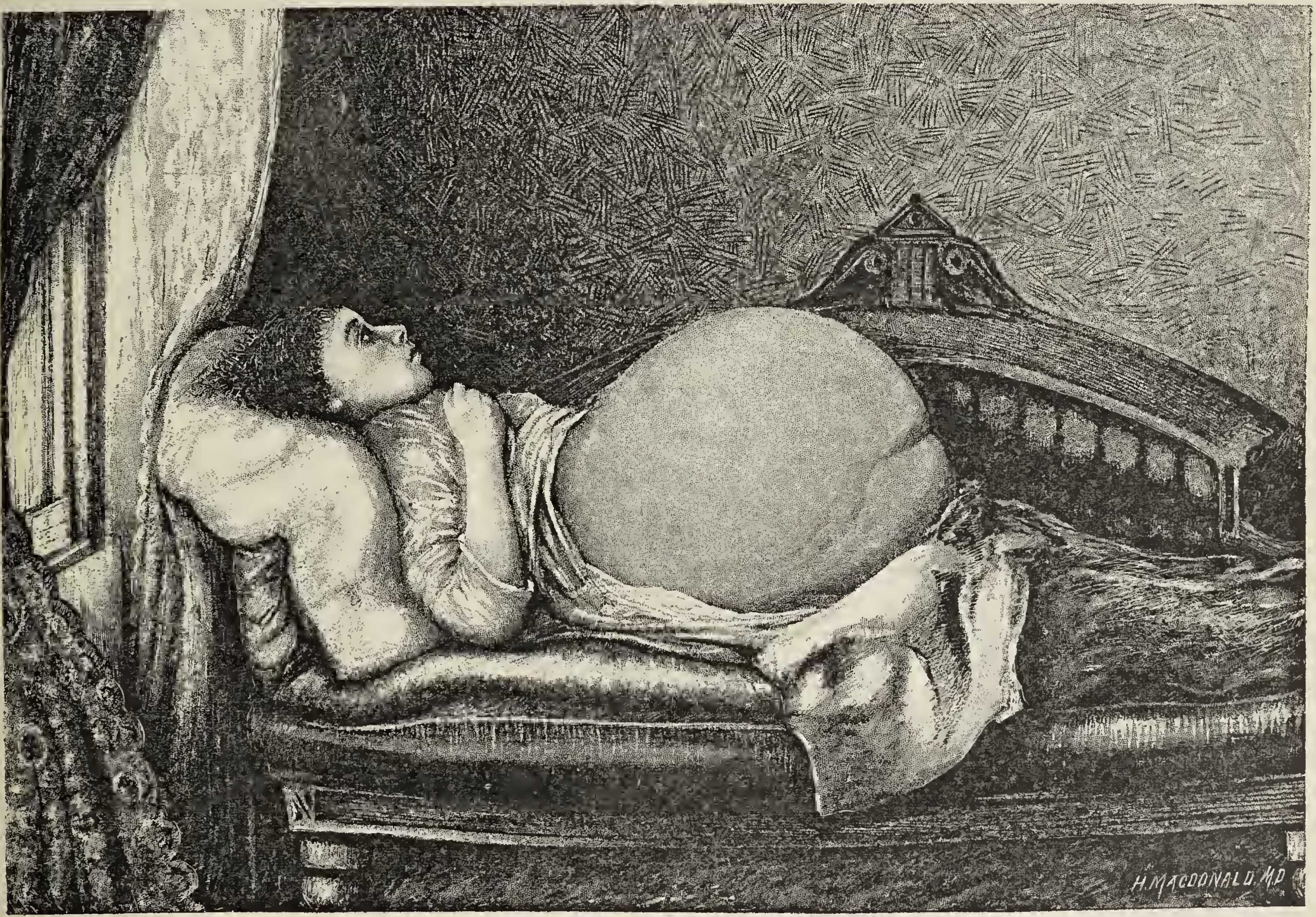
Operation, March 1, 1890.—The tumor proved to be a large cyst filled with chocolate-colored fluid (20 litres). The cyst was multilocular, and evidently had originated from the right ovary.

On the left side, behind and below the uterus, was found a second cyst, of the size of a child's head, so tense that it strongly simulated a solid tumor. Unlike the former, it contained clear yellow fluid (30 ounces). It was firmly adherent to the sigmoid flexure, and considerable hæmorrhage resulted from separation of the adhesions. The glass tube was left in the abdomen for six days; quite a large amount of fresh blood was withdrawn from the tube the first three days, and the pulse ranged from 120 to 140. The wound healed primarily and the sinus quickly closed; but at the end of two weeks she had a sharp attack of local peritonitis. A small mass of omentum had been tied off during the operation, and this was undoubtedly the cause of the trouble. A hard, very tender mass, intraperitoneal, could be felt three inches above the umbilicus. The patient made a good recovery. In August (five months after the operation) she was again seen. She still complained of severe pain in the region of the uterus, and had a constant bloody discharge, with marked odor. A careful examination revealed undoubted evidence of carcinoma of the cervix, thus explaining the earlier symptoms, as the disease had evidently coexisted with the ovarian trouble.

Case III. *Very Large Multilocular Cyst of the Left Ovary; Right Ovary removed for Cystic Tumor Nine Years before; Laparotomy; Hæmorrhage after Operation arrested by a Large Iodoform Tampon; Recovery; Fæcal Fistula with Spontaneous Closure.*—J. B., sixty-one years of age, widow, always well. Nine years previous to admission a large cystic tumor was removed. Ventral hernia soon after appeared in the cicatrix. Three years later a swelling appeared in the left ovarian region. This steadily increased in size and was attended with considerable pain and discomfort.

Examination.—Abdomen greatly enlarged (measuring forty-eight inches at the umbilicus). An old cicatrix seven inches long was seen in the median line, and just to the right of this an old hernia of the size of a man's head. The whole abdomen, with the exception of the uppermost part, was dull, and fluctuation was distinct.

Operation May 9, 1890.—An incision six inches long was made in the median line, disclosing a large multilocular cyst of the left ovary, containing thirty litres of clear yellow serum, and everywhere adherent to the parietal peritonæum and the viscera. The adhesions could only be separated with the greatest difficulty, and at the risk of considerable hæmorrhage. An attempt to enucleate the cyst-wall was only partially successful. A pedicle was finally obtained, attached to the broad ligament; this was transfixed and ligated with heavy silk. The ovary could not be recognized. The hæmorrhage could not be entirely checked, but, as the patient's condition was poor, it was thought best not to prolong the operation. A large iodoform gauze drain was left in the pelvis in addition to the glass tube. Two hours after the operation fresh blood began to come from the tube and drain, and the patient showed well-marked constitutional signs of hæmorrhage. The abdominal wound was opened (without anæsthesia) and a large square piece of iodoform gauze was pushed into the bottom of the cavity. Within this, as a receptacle, several smaller pieces were introduced. This controlled the hæmorrhage. The gauze was allowed to remain three days and was then gradually removed. On the sixth day a fæcal fistula appeared. This remained open three weeks, and then closed spontaneously. The patient made a good recovery.



Case IV.

Case IV. *Large Multilocular Cyst of the Ovary; Laparotomy; Recovery.*—A. G., thirty-five years of age, entered the hospital in June, 1890, with a tumor of the abdomen of five years' duration, steady increase in size, and unaccompanied by pain. She had been tapped ten days previous to admission and eighty pounds of clear yellow fluid withdrawn. On her entrance, the abdomen was greatly distended and the intestines were crowded up into the region of the ensiform cartilage.

Operation, June 19, 1890.—A median incision fourteen inches long was made. A large multilocular cyst was found, attached by old and firm adhesions to the ensiform cartilage above and to all the abdominal viscera. The cyst had evidently started in the left ovary. There was considerable hæmorrhage, but it was controlled. The glass drainage-tube was taken out at the end of twenty-four hours. The abdominal wound healed by perfect primary union. On the eighth day (at the first dressing) the intestines were still in the upper portion of the abdomen, and the anterior abdominal wall was in contact with the spine. During the third week there was a mild attack of intestinal obstruction lasting a few days. The intestines slowly regained their natural position and the abdomen its normal shape.

The patient was discharged cured August 13th.

CASE V. *Cystic Adenoma of the Ovary; Laparotomy; Recovery.*—The patient, twenty years of age, had been married two years before; had had no children, but one miscarriage (at four months) a year previous to her admission. Three months and a half before she had had the left tube and ovary removed for oophoritis. After the operation, pain and tenderness began in the region of the right ovary, and she came to the hospital for the relief of pain. Examination showed the uterus movable and the cervix high up. On the right side a small, tender mass was felt which was supposed to be an enlarged ovary.

Operation, March 19, 1890.—The right ovary and tube were found bound down by adhesions. They were both removed; the ovary was but slightly enlarged and contained a number of small cysts. No drainage was used. Primary union and prompt recovery from the operation followed, but the pain continued with but slight relief.

Diagnosis and date of operation.	Sex, age, condition.	Previous history.	Condition at time of operation.	Operation.	Wound healing and complications.	Result.	Drainage and irrigation.	Remarks.
1. Ovarian cyst, multilocular. Nov. 2, 1889.	F., 54; married.	Well until 1 yr. ago; rapid enlargement of abdomen; loss of flesh and strength; children.	Whole abdomen greatly distended; symmetrical spheroid tumor; fluctuation.	Median laparotomy, 3½-inch incision; two large cysts attached to ovaries removed with ovaries; contents, color of chocolate and gelatinous in consistence.	Primary union; tube taken out end of 24 hours. Uninterrupted recovery.	R.	Drainage and irrigation.	
2. Colloid cysts of ovaries with salpingitis. Nov. 20, 1889.	F., 28; married.	Well until 1 yr. ago; three attacks of pelvic peritonitis during past year; no children.	Nothing felt by abdominal palpation. Vaginal examination: two firm masses, size of an orange, one on either side of uterus.	Median laparotomy, 4-inch incision; contents of pelvis firmly matted together by old adhesions; two small colloid cysts, along with tubes and ovaries, removed; considerable hæmorrhage.	Severe shock followed operation; tube removed at end of 24 hours. Good recovery, but persistent sinus remained.	R.	Glass and iodoform drainage.	Sinus not closed 1 yr. after operation. Menstruation began 1 mo. after operation, and has since occurred regularly.
3. Cystic ovaries. Feb. 1, 1890.	F., 38; married.	Past 9 months menstruation irregular, and severe pain in ovarian region.	Abdominal examination negative; *per vaginam*, two small masses felt, one on either side of uterus; tender.	Median incision, 3½ in.; both ovaries slightly enlarged and containing small cysts; ovaries and tubes both removed.	Primary union. Prompt recovery from operation; but pain but little relieved.	R.	No irrigation; no drainage.	Patient seen several months later, and pain still severe.
4. Cystic ovaries and dilated Falloppian tube. Feb. 8, 1890.	F., 21; married.	Pain and tenderness in left ovarian region, 1 yr.; right ovarian region, 3 mos.; irregular menstruation; no children.	Tenderness over both ovarian regions. Vaginal examination: two small, tender masses, apparently in right and left broad ligam'ts.	Median incision, 3½ in.; ovaries cystic and slightly enlarged. One tube dilated; no pus in tube. Tubes and ovaries removed. Small intestine wounded, 1½ in.; closed with silk sutures.	Second day, temp. 102·4°; abdomen moderately distended and tender. Ice-coil and saline cathartic; small and frequent doses. Good recovery.	R.	No irrigation; no drainage.	Primary union.
5. Multilocular cyst of ovaries; simulating malignant tumor. March 1, 1890.	F., 54; married.	Family history good; pain in right iliac region, 1 yr.; tumor, 9 mos.; rapid loss of flesh and strength in 3 mos.; children.	Symmet. spheroid tumor 3 in. above umbilicus; cervix hard; Douglas's *cul-de-sac* filled with hard, apparently solid tumor.	Median incision, 4 in.; attached to right ovary was a cyst containing 20 litres chocolate-colored fluid; left side behind and below uterus was a cyst size of a child's head, very tense and hard. Contents: clear, yellow serum.	Consid. hæmor. followed separation of adhesions, and fresh blood was removed from tube for 3 days. Pulse, 120–140. Tube left in for 6 days.	R.	Glass drainage.	Small piece of omentum was tied off during operation, and at end of 2 weeks stump evidently became inflamed. Hard, tender mass above umbil.; temperature, 101°. Patient had well-marked signs of cancer of cervix, 6 mos. later.
6. Cyst of broad ligament. March 8, 1890.	F., 29; married.	Always well; 8 mos. ago tumor appeared in lower portion of abdomen; no pain; menstruation regular; no children.	Abdomen symmetrically enlarged; circumference at umbilicus, 41 in.; fluctuation.	Median incision, 3 in.; contents of cyst removed through trocar. Pedicle attached to right broad ligament; left ovary and tube undisturbed; right ovary and tube removed.	Primary union. Patient sitting up 14th day.	R.	No drainage; no irrigation.	
7. Ovarian cyst, multilocular. April 8, 1890.	F., 28; married.	Always well; increase in size of abdomen noticed, 1 yr.; pain of late; no children.	Tumor symmet.; fluctuating; occupying lower portion of abdomen as far up as umbil.	Median incision, 3 in.; cyst of right ovary, containing 1 litre of reddish-brown fluid, found; left ovary enlarged and cystic. Both ovaries and tubes removed.	Recovery good, but somewhat delayed by a stitch-hole abscess.	R.	Glass drainage; no irrigation.	
8. Ovarian cyst, very large, multilocular. May 9, 1890.	F., 61; married.	Right ovary removed for cystic tumor 9 yrs. before; 6 yrs. ago tumor appeared on left side; children.	Ventral hernia, size of a man's head, at site of old cicatrix; whole abdomen greatly enlarged; tense and fluctuating.	Six-inch median incision; cyst wall firmly adherent throughout entire extent. Adhesions separated with great difficulty. Cyst contained 20 litres fluid, clear; cyst wall, ovary, and tube removed.	Two hours after operation signs of hæmorrhage. Wound opened, and large iodoform gauze tampon introduced; controlled bleeding.	R.	Irrigation; glass and iodoform drainage.	Sixth day a fæcal fistula appeared at site of tube; spontaneous closure at end of 3 weeks.
9. Ovarian cyst, multilocular. June 19, 1890.	F., 35.	Five years ago abdomen began to increase in size, gradual enlargement since; no pain; no children.	Ten days before operation cyst tapped, and 80 lbs. of chocolate-col'd fluid withdrawn.	Median incision, 14 in. long. Large multilocular cyst adherent to ensiform cartilage above and to all the viscera. Adhesions separated with difficulty.	Perfect primary union; 3d week obstinate constipation, lasting a few days. Discharged cured, 50th day.	R.	Irrigation and glas drainage.	

Diagnosis and date of operation.	Sex, age, condition.	Previous history.	Condition at time of operation.	Operation.	Wound healing and complications.	Result.	Drainage and irrigation.	Remarks.
10. Cystic adenoma of ovary. March 19, 1890.	F., 20; married.	One year ago pain and tenderness in left ovarian region; left tube and ovary removed 3½ mos. before; pain in right ovary since.	Tender mass in right ovarian region felt *per vaginam.*	Median incision; tube and ovary adherent; removed. No drainage, no irrigation.	Perfect primary union; prompt recovery.	R.	No drainage; no irrigation.	Pain but slightly relieved.

CARCINOMA OF THE STOMACH.

CASE I. *Exploratory Laparotomy; four weeks later, Pylorectomy and Gastro-enterostomy; Recovery.*—This case having already been reported at length by Dr. Bull himself at the New York Academy of Medicine and published in the *Medical Record*, a brief sketch will here suffice. The patient was a woman, twenty-seven years of age, born in Ireland, and had been in good health up to within eleven months of the time of entering the hospital. She then began to have attacks of nausea and vomiting. These symptoms continued increasing in frequency, and four months before the operation a "lump" was noticed in the epigastrium. This was freely movable and was somewhat painful, the pain being sharp and shooting in character. There had been no vomiting of blood, nor had she ever noticed blood in the stools. She had lost flesh and strength rapidly during the last two months, and her face was markedly anæmic. In the epigastric region there was a tumor two inches and a half by four inches and three quarters in vertical and transverse diameters, rising and falling with respiration. It was freely movable to the right as far as the outer border of the right rectus muscle, and to the left to the normal position of the kidney; free hydrochloric acid was absent in the stomach. On March 8, 1890, an exploratory laparotomy was performed, disclosing a large neoplasm, evidently carcinomatous in character, occupying the pylorus and a large portion of the greater curvature of the stomach. As the removal of the growth would necessitate such an extensive operation, with a prognosis at best doubtful, it was thought wise to defer it until the nature of the tumor, as well as the risk attending its removal, had been explained to the patient.

The exploratory wound quickly healed. After careful deliberation the patient decided to undergo a second operation, and accordingly she returned to the hospital on April 4th.

She was kept in bed three days. No special preparation was carried out beyond restricting the diet and keeping the bowels loose. The stomach was not washed out previous to the day of the operation, and liquid food was given up to the morning before the operation. Just before the operation she was given four ounces of strong black coffee and an ounce of whisky by rectum.

Second Operation, April 7, 1890.—As soon as the patient was anæsthetized, the stomach was washed out with boro-salicylic acid by means of a stomach tube. A five-inch median incision was made. The omentum was slightly adherent in the line of the old incision. The greater and lesser omenta were then separated from the portion of stomach to be removed. The duodenum was then cut across just below the pylorus and the distal end turned in and carefully sutured by a double row of silk Lembert sutures. A second transverse incision was made beyond the cardiac end of the new growth, and the proximal end was treated in the same manner as the duodenal, except that the muscular layers were first roughly approximated by means of a continuous catgut suture. This left the portion of stomach remaining a blind pouch.

A coil of jejunum about twelve inches from the duodenum was then found and brought into contact with the anterior wall of the stomach. A gastro-enterostomy was then performed with Abbe's catgut rings in the usual way. This portion of the operation occupied only thirty minutes. The whole time the patient was under ether was three hours and a half. Her condition became very bad before the close of the operation, her pulse at one time being 204 and scarcely perceptible. Digitalis and hydrobromide of quinine given subcutaneously, and whisky with hot water by the rectum, revived her.

Two hours after leaving the ward she vomited a small quantity of bloody mucus. During the first twenty-four hours after the operation her condition was very critical, but from that time on improvement was steady and rapid. Her temperature was normal, but her pulse remained high for the first five days. No food by the mouth was allowed for three days, and after that only liquid and in small quantities. The patient was discharged cured on May 2d. She subsequently returned to her home in Ireland. Dr. Bull received a letter from her in January, 1891. She was well at that time.

CASE II. *Laparotomy; Gastro-enterostomy; Death.*—The patient was a woman thirty years of age, and in good health until eleven months previous to the operation. She then began to have nausea and vomiting, and afterward suffered rapid loss of flesh and strength. A tumor in the epigastrium had been observed a few weeks before her entering hospital. Examination showed considerable emaciation. The epigastric region was occupied by a tumor two inches by three inches and a half in diameter, hard, nodular, moving with respiration, and capable of being pushed up beneath the ribs, but less freely movable in a lateral direction. No free hydrochloric acid was found in the stomach.

Operation, May 10, 1890.—The stomach was washed out after anæsthesia, as in the preceding case. The neoplasm was found to involve so much of the stomach that its removal was not to be considered. It began near the pyloric extremity, occupied almost the entire lesser curvature, and extended well around to the greater curvature anteriorly. The stomach being much less freely movable than in the former case, it could not be drawn out of the abdominal wound, and the gastro-enterostomy which was performed was done under very great difficulties. The stomach wall was friable, and the sutures between the intestine and stomach repeatedly gave way. The stomach itself had not been completely emptied by the tube before the operation, and it required the utmost care to prevent any of the contents from getting into the abdominal cavity. The condition of the patient remained good throughout the operation, and she recovered from the shock which necessarily followed; but septic peritonitis rapidly developed, and she died at the end of thirty-six hours. The autopsy showed general peritonitis. The sutures had held perfectly.

Remarks.—In this case, doubtless, it would have been wiser to refrain from attempting intestinal anastomosis, the growth was so extensive and the condition so unfavorable for the success of such an operation. Had it proved successful, the prolongation of life would have been very trifling, if any.

Case III.—*Exploratory Abdominal Section; Recovery.*—The third case of malignant disease of the stomach subjected to operation was that of a man forty-five years of age. He had been well until nine months before, when he began to have nausea and vomiting, and subsequently developed a characteristic history of cancer of the stomach. He had been unable to eat solid food for six weeks, had considerable epigastric pain, increased by the ingestion of food and relieved by vomiting, and loss of flesh had been rapid and progressive.

Exploratory incision, June 24, 1890, revealed a neoplasm extending from the upper part of the duodenum to the cardiac orifice. There were several enlarged glands in the omentum, and both excision and anastomosis were deemed impracticable. The patient made a rapid recovery, and suffered no harm from the exploration.

UTERINE FIBROIDS.

Case I.—E. C., thirty-eight (colored), married. General health always good; never pregnant; several attacks of pelvic peritonitis during the past six years; the last attack eighteen months before, since which time there had been a small tumor in the right iliac region; tender, movable at first, but gradually becoming more fixed; slowly increasing in size; considerable pain, sharp, shooting in character. Menstruation regular, but more profuse than normal. Admitted on October 15, 1889.

Operation, October 25, 1889.—Ether. Fundus of the uterus found enlarged; both ovaries cystic. Several fibroid masses, varying in size from that of a small egg to that of the fist, were found attached to the uterus, and bound by firm adhesions to the adjoining viscera. The adhesions were separated with difficulty, and the fibroid masses, together with both ovaries and tubes, were removed close to the body of the uterus, and the pedicles secured by heavy silk ligatures. Considerable hæmorrhage resulted from the separation of the adhesions, but it was controlled by means of the cautery. A glass and also an iodoform gauze drain were left in the wound, the former being taken out at the end of thirty-six hours, and the latter on the fourth day. The patient made a good recovery, but the sinus persisted, and when last seen, eight months after the operation, was two inches deep, just admitting a director.

CARCINOMA OF THE RECTUM.

Case I. *Inguinal Colotomy; Recovery.*—L. S., aged fifty-four, married, United States, general health good until recently. Three years ago he first noticed a small mass in the rectum about two inches above the anus. This slowly increased in size, and a year ago he began to have a bloody discharge from the rectum and the stools became flattened. The pain and bleeding had much increased during the past four months, and there had been moderate loss of flesh and strength.

Physical Examination.—The anus did not admit the finger until after gradual dilatation with bougies. Just within the anus a small mass was felt on the anterior wall of the rectum and extending up as far as the finger could reach.

Operation, October 30, 1889.—Inguinal colotomy. One finger in the rectum and another in the wound allowed the limits of the tumor to be made out. The growth appeared to be too extensive to warrant extirpation at a subsequent operation, which plan was at first entertained.

The gut was opened on the third day, and the patient suffered no bad effects from the operation. He left the hospital on November 28th, improved.

Case II.—M. F., aged forty-five, married, general health good until two years ago, since which time there has been more or less blood in the stools. Eight months ago she began to have pain in the rectum, accompanied by marked constipation. Stools hard and flattened. Considerable loss of flesh and strength.

Physical Examination.—Lower portion of rectum normal. High up anteriorly there was felt a hard, smooth mass of about the size of an egg and somewhat movable.

Operation, May 30, 1890.—Median incision four inches below the umbilicus. A tumor of the size of a large hen's egg was found in the anterior wall of the upper portion of the rectum between the bladder and the rectum and involving the rectum to such an extent that removal would be impossible without destroying the continuity of the bowel.

A loop of the sigmoid flexure was then brought into the wound, and the wound was closed, leaving just enough open to receive the portion of sigmoid flexure necessary for a colotomy. The gut was held *in situ* by means of a silver wire passed beneath it and fastened to the abdominal wall on either side, and the serous surfaces were held together by a few sutures of fine catgut.

The bowels were opened on the fourth day, and the patient left the hospital on January 16th, improved. She is living now.

(*To be concluded.*)

THE THEORY AND PRACTICE OF INFANT FEEDING.

By J. MILTON MABBOTT, M. D.,
LATE RESIDENT PHYSICIAN, ST. LUKE'S HOSPITAL
AND THE NURSERY AND CHILD'S HOSPITAL, NEW YORK;
LECTURER ON NURSING AT ST. LUKE'S
AND THE NEW YORK POST-GRADUATE TRAINING SCHOOLS.

There are few subjects apparently less generally understood or more important than the subject of infant feeding. Fortunately, this subject has recently been receiving much attention, and within the last three years great advances have been made in this department, resulting in great practical good. I shall consider the subject in four divisions: I. Natural Feeding. II. Wet-nursing. III. Mixed Feeding. IV. Artificial Feeding.

I. *Natural Feeding.*—There can be no question whatever but that the natural food for a healthy infant is the food which Nature has provided, and the natural time for the infant to require food was as natural a consideration of Providence as the provision of the food. Therefore, if the mother is also healthy, it is fair to presume that her breasts will provide the infant with proper food in proper quantity and at the proper time.

For the first twelve hours, and indeed for a longer time, the child will take no harm if left unfed (Cullingworth *). It is proper, however, to apply it to the breasts within three or four hours after birth if the mother is in good condition and not too much exhausted. The child in the mean time will have been washed and dressed, and during this process will probably have cried sufficiently, so that respiration will have become thoroughly well established, and will be prepared to draw on the nipple. The first fluid which the child obtains from the breasts is called *colostrum*, a yellowish, thin, mucilaginous fluid, said to possess laxative qualities causing it to have a mild action on the bowels, aiding the removal of the *meconium.* The mother's breasts will not usually be filled with *milk* until the second or third day; but there is a small quantity of fluid present, gradually assuming the characteristic properties of ordinary milk.

---

* *Manual for Monthly Nurses*, 2d ed., p. 60.

The early application of the child to the breasts helps to form the nipples and teaches the child to nurse (Cullingworth), although the act of sucking is largely reflex in origin (Dalton *). If the child has previously been fed with a spoon it will be less hungry and less inclined to nurse, as if realizing that nursing is not as easy as being fed, and apparently possessing no special disposition to difficult exertion. And there is an additional advantage to the *mother* in early application of the infant to the breasts, because irritation of the nipples excites reflex contractions of the womb, enabling it to expel clots if any have formed in its interior, assisting the womb to return more rapidly to the size it should assume, thus insuring less danger of subsequent womb troubles which are so apt to result from the uterus remaining large and heavy after the woman begins to sit up and go about.†

From six or eight o'clock in the morning until about ten o'clock in the evening, after the third day, the child should be put to the breast every two hours and allowed to nurse from ten to twenty or twenty-five minutes at a time. The interval may be as long as four hours until the flow of milk is fairly established, but afterward the child should be nursed every two hours in the day-time, and once or twice in the night when it awakens from sleep. In the day-time the child should be awakened at the proper times, if sleeping, and put to the breast. In the night-time it is much better to allow it to sleep without disturbing it until it awakens of its own accord. No harm will come of its sleeping at night as long as five or six hours at a time. Waking it in the day-time, on the other hand, enables it to obtain a proper amount of nourishment, and will render it much less apt to be hungry and sleepless at night.

It is of extreme importance *not* to allow the child to be nursed too often. The milk requires from an hour to an hour and a half for stomach digestion, and if the child nurses too frequently new milk will be added each time to that, partly digested, already present in the stomach, and the stomach will be at a loss to select the digested from the undigested portions of the mixture, and will be placed in the predicament of choosing, so to speak, between detaining the unabsorbed residue of the digested portion longer than it should have remained, or allowing the more recently received supply to pass on beyond the stomach before there has been sufficient time for the latter to undergo the changes which should take place in the stomach. The probable result will be a compromise, part of the milk being retained too long and part not long enough in the stomach, and from time to time the never-empty stomach will discharge part of its mixed contents into the bowels, and the bowels will thus be called upon, in turn, to endeavor to finish the work which belonged to the stomach as regards the portions which have passed on too soon. The stomach will be worn out, not only because it will have lost its natural periods of rest between digestion, but also because it will have been wasting force in continuing to act upon contents part of which should have been disposed of sooner. And this waste of force will not be compensated for practically by the disposal of some portions of the milk before the completion of normal stomach digestion, because the stomach will probably not have commenced expelling its mixed contents into the intestines until a new nursing makes it necessary for it to provide room for the new supply crowded into it from above. Very soon the overworked stomach and overworked intestines begin to perform their functions poorly, the milk, *although received in larger quantity than necessary*, is improperly digested and can not be assimilated, and the child becomes poorly nourished. Its tissues demand nutrition which the disordered stomach and bowels have failed to supply. The child is therefore constantly hungry and always ready to nurse, not because it is not taking enough food into its stomach, but because the food taken can not be properly digested and absorbed. At first the child may be constipated, the stools becoming green instead of yellow in color; but usually diarrhœa and vomiting soon follow. It is needless to say that when all these symptoms have supervened the child can only be saved by the most judicious treatment, principally directed to the feeding; indeed, the child's life will be at stake, and it will readily be seen that too frequent nursing may have been the primary cause of wasting disease, under circumstances in which Nature had provided a healthy child with a healthy wet-nurse and everything else apparently necessary for the health of both, excepting the requisite amount of brains or education. Under the doctrine of the survival of the fittest it appears as if some children are capable of surviving and thriving in spite of the obstacles set in their paths by the pernicious practice of irregular and frequent nursing. "Many women put the child to the breast whenever it cries, forgetting that this is the only way in which it can express its sense of discomfort, from whatever cause arising" (Cullingworth). The child may be in pain, or its napkin may want changing, or it may be too warm or too cold, or, most likely of all, it may be thirsty, and not hungry. A tablespoonful, or more, of sterilized or boiled water, afterward cooled to about 70° F., will often be very grateful to the infant, and may be given three or four times daily, or more frequently, to an infant of any age in the intervals between nursings.

After about two or three months the frequency of nursing or feeding of infants should be reduced to about every two hours and a half, and after four to six months of age the interval may be increased to about three hours for well-nourished, healthy babies. Under some circumstances, more frequent nursing or feeding than I have mentioned may be allowable under competent medical direction.

If the milk supply is abundant, the child should be applied to only one breast at each nursing, the two breasts being given at alternate nursings. If the child does not seem satisfied after nursing fifteen or twenty minutes at one breast, and the breast seems empty, it may be applied to the other breast also for a few minutes, the latter being given first at the next nursing.

---

* *Human Physiology*, 7th ed., p. 704.

† This may seem a digression from the subject under consideration, but I have introduced the statement in the hope that it may serve as an additional inducement to mothers to nurse their offspring if in any way possible.

II. *Wet-nursing.*—When for any reason the mother can not nurse her baby, the next best thing for the baby is a good wet-nurse. The wet-nurse should be a comparatively young, perfectly healthy woman, of good habits, mild disposition and serene temper, with firm, well-formed breasts, and with prominent nipples of medium size and not tender. The wet-nurse should be one who was confined about the same time as the mother of the child, *or more recently*, in order that her period of lactation may not expire naturally before the proper time for weaning the baby. The selection of the wet-nurse should always be made with special care, to be certain that the woman is free from constitutional disease—syphilis and tuberculosis in particular. The disposal of the wet-nurse's baby is a matter of vital interest, but we can not consider the subject in this place. Your first care is for your patient's baby.

At night the wet-nurse should remain up out of bed while the baby is nursing, in order that she may not fall asleep, allowing the infant to remain at the breast too long (Winckel). She should have a proper night-robe for this purpose, and as the infant should occupy a separate bed—necessitating the rising of the nurse—the additional trouble of remaining up is inconsiderable, and at any rate no greater than the troubles of bottle-feeding, warming the milk, etc.

III. *Mixed Feeding.*—If the supply of breast-milk is scanty, it is often better to continue breast-feeding as far as the supply will permit, supplemented as far as necessary by the addition of other nourishment, than to resort to artificial feeding entirely. This mixed feeding, partly by wet-nursing and partly with the bottle, I am satisfied is usually preferable to bottle-feeding alone, provided the milk of the mother or wet-nurse is simply scanty and otherwise good. It is best to give the breasts only at one feeding and the bottle at another, the frequency with which the bottle is substituted depending on the mammary milk supply.

IV. *Artificial Feeding.* — When the mother can not nurse, and when a wet-nurse can not be obtained, it will be necessary to resort to artificial feeding. A recent writer in the *Popular Science Monthly* characterized *all* artificial feeding as "not only unnatural but hazardous," and to be successful requiring the most intelligent attention.* Our object should be to make it resemble natural feeding as closely as possible, and to reduce the dangers as much as possible. Cows' milk,† properly modified, diluted, and sterilized, is the best possible substitute for mother's milk.

I always recommend the mixed milk of several healthy cows as more likely to prove successful than one cow's milk, unless it happens that you can get the milk of a single cow which just happens to agree perfectly with the baby. The mixed milk of several cows is much more likely to be a milk of average quality and is much less liable to daily variations than the milk of a single cow, and, moreover, a continued supply of milk from the same source can be much more safely depended upon.

During the last three years the subject of infant feeding has received much attention from many able men, and the sterilization of the mixtures employed in artificial feeding has received special attention and is of the greatest importance (Soxhlet, Caillé, Seibert, *et al.*). Sterilization aims to prevent the food from undergoing certain changes which render it capable of causing various disorders or diseases of the digestive organs. These changes have been found to be dependent upon the presence of certain living germs or microbes, just on the border-lines between the animal and vegetable kingdoms, which gain access to the milk chiefly from the atmosphere in which they are present in great abundance, especially in the city and in hot weather. Having gained access to the milk, these germs not only increase and multiply, but they give rise also to certain poisonous products or ptomaines (notably *tyrotoxicon* under certain circumstances), which may be compared, for purposes of illustration, to the excreta and products of decomposition resulting from the life, growth, and decay of the higher classes of animals and vegetables. If we can prevent the access of these germs to the milk, or if we can destroy them and render their products harmless in milk to which they have already gained access, we shall be able to eliminate one of the greatest dangers of artificial feeding. By the process of sterilization we can accomplish much that has been desired.

It is a familiar fact that ordinary milk in open vessels, placed in an ice-box or refrigerator, can with difficulty be kept sweet as long as forty-eight hours in the summer time. But it has been demonstrated that milk which has been kept at a boiling temperature for an hour and then immediately sealed from the atmosphere in the same way as that employed in preserving fruits and meats, can be kept almost indefinitely—two or three weeks at least—even without the use of ice. It *would* keep *indefinitely* if it were perfectly sealed from the atmosphere and if all the germs had been destroyed.* But perfect hermetical sealing is not easily secured, and the boiling temperature (212° F., which is the same as that of steam under ordinary atmospheric pressure) is not sufficiently high to destroy the life of all the germs present, some varieties of which are capable of surviving exposure to even somewhat higher degrees of temperature without losing their vitality. But as it is only necessary in most instances to preserve the milk two or three days from the time it is drawn from the cow (*i. e.*, one day after it is delivered to the consumer), it has been found that the requisite practical advantages can be secured by simple methods which can be easily carried out by any intelligent mother or nurse, or even by a good nurse-maid.

To obtain the best results, the milk should be sterilized at the dairy farm as soon as possible after it is drawn from the cow, and such milk in sealed bottles can now be obtained in New York city, but is rather expensive. The next best thing is to procure milk as fresh as can be obtained and sterilize it as soon as possible after procuring it, as the process of sterilization only prevents the milk from undergoing further changes (not absolutely), and does not destroy the poisons or ptomaines which may already have been produced. These poisonous products, however, are not likely to be present in sufficient quantity to prove harmful in milk which appears to be sweet and fresh when it is received. But remember that milk obtained in New York city is already somewhere from twelve to thirty hours old when delivered to customers, and it should therefore be sterilized at the earliest possible moment after delivery.

---

* Quoted in *Gaillard's Med. Jour.*, July, 1889, p. 89.

† *Vide* Report of the International Congress, *Med. Rec.*, Sept. 10, 1887, p. 317.

* *Vide* Dalton's *Physiology*, 7th ed., p. 578.

The nurse should have in readiness every morning as many clean bottles, of the proper size, as the number of times the child will require to be fed in the next twenty-four hours. We will suppose the child is to be fed every two hours from six o'clock in the morning until ten o'clock at night, and once or twice in the night. Then ten or eleven feedings will be required, and eleven bottles should be prepared. The nurse will therefore prepare eleven times as much of the mixture which is to be employed as is requisite for a single feeding. She may prepare the mixture separately in each bottle by putting in, one after another, the proper quantity of each ingredient; or she may mix the entire quantity required in a large vessel or pitcher, and then pour the proper quantity of the mixture into each bottle. The bottles should be large enough so that the upper two inches may be left unfilled. A plug of ordinary non-absorbent cotton-wool or cotton-batting should now be forced firmly into the upper inch of the neck of each bottle, and the bottles thus prepared are placed in the steam-chamber of an Arnold's sterilizer. The covers of the sterilizer are then adjusted and the apparatus is placed upon the kitchen range, or over a gas stove or other suitable heater. The construction of the Arnold sterilizer is such that the steam-chamber becomes almost immediately filled with steam without waiting for the water in the pan underneath to boil, and the temperature in the steam-chamber remains uniformly at 212° F. as long as the heat is applied. Moreover, as most of the steam re-condenses, it does not fill the room with steam, but the condensed steam falls back into the water-pan, and the apparatus therefore needs no watching or renewal of the water to prevent it from boiling dry and becoming leaky from melting of the solder.

The sterilizing process is continued at least one hour. The period need not be exact, as a longer subjection to the heat will do no harm. The heat is then discontinued and the bottles are taken out of the steam-chamber and set aside—preferably in the ice-box, though this is not essential, as the mixture will keep well for a number of days even at ordinary temperatures. The plugs of cotton in the necks of the bottles are to be left undisturbed until each bottle is required for feeding. Then at each feeding time a bottle is to be placed in a vessel or jug of water, the water in the outer vessel reaching as high as the mixture in the bottle, and being warm enough to impart to the mixture the proper temperature for feeding. The ideal temperature for the food is, of course, the same as that of breast-milk—about lukewarm, not hot and not cold, but of such a temperature that the baby's stomach will not be called upon to warm it up or cool it off. Above all, never feed a baby with food that is too hot. A baby's mouth and throat are more sensitive than those of an adult, and some of the readers of this paper may themselves remember an unpleasant experience in drinking very hot liquids. Sore mouths in infants may be produced in this manner.*

After the food has acquired the proper temperature, of which the nurse can judge by feeling the outside of the bottle from time to time, the plug of cotton should be removed from the neck of the bottle and the rubber nipple put on, the same bottle being employed for feeding, though there is no important objection to pouring the mixture into an ordinary nursing-bottle having a rubber nipple directly adjustable to the neck of the bottle, provided the nursing-bottle is kept scrupulously clean. There should be no long rubber tube between the nipple and the bottle. It is impossible to keep such a tube clean; the milk sours in the tube and various evils result. The rubber nipple which fits directly over the nursing-bottle is taken off as soon as the child has finished nursing, and can be turned inside out and cleansed perfectly with hot water. It is well to have several such rubber nipples, and keep them, when not in use, constantly immersed in some cleansing solution, a saturated solution of boric acid (or a teaspoonful of borax or bicarbonate of soda in a cupful of water) being excellent for keeping them sweet and clean. The bottle should be held or watched by the nurse or nurse-maid while the child is nursing. It should not be left with the child longer than twenty or twenty-five minutes under any circumstances. When the child has finished its meal, if any food remains in the bottle the remaining food should always be immediately thrown away before it turns sour, and the bottle should be immediately thoroughly washed with hot water. It should also be rinsed again with hot water just before using the next time.

Some authorities have recently recommended the most careful regulation of the quantity of food which shall be permitted to be given at a time to a bottle-fed child. Dr. Seibert † has especially laid stress upon such regulation. The subject was ably presented recently before the Academy of Medicine by Professor J. Lewis Smith and discussed by Dr. Winters, Dr. Northrup, Dr. Dorning, and Dr. Seibert.‡ Eimer & Amend have placed on the market a graduated series of bottles under the instructions of Dr. Seibert, and called Seibert's bottles, marked according to the size and weight (instead of age) of the children for whom they are intended, and also marked to indicate the maximum allowable quantity and the amount of dilution of the milk usually considered advisable. Seibert's bottles are the most convenient bottles for use in a sterilizer, whether their markings are strictly regarded or otherwise. A breast-fed infant a month old usually nurses about two or three ounces at each nursing, and older babies nurse more, but not as much more for relative ages as would be expected, as the mother's milk becomes gradually richer in nutriment, so that comparatively less increase in bulk or quantity is sufficient for maintenance and growth. Dr. Holt has shown that the capacity of the stomachs of infants of similar age, size, and weight is very variable. When a child is wet-nursed, exact regulation of the quantity of food is evidently impracticable. And in bottle feeding I am inclined to advise that rather more than the necessary quantity should be prepared, believing that there is little danger of the child taking too much, if not fed oftener than every two hours in the day-time and every three or four hours at night, thus leaving sufficient intervals for the proper digestion and assimilation of the food taken, and preventing the creation of that unnatural appetite met with in poorly nourished children suffering with so-called wasting disease, athrepsia or marasmus, formerly vulgarly known as "hungry" marasmus, because hunger or greediness for food is such a prominent symptom. As I have explained, in speaking of wet-nursing, this unnatural hunger may actually be due to feeding the child too much and too often, the stomach and bowels being incapable of digesting the large quantities of food so frequently introduced, and simply allowing it to pass through the alimentary canal without assimilation into the system, while the unsatisfied tissues are continually demanding nutrition, and the child therefore continually suffers from the pangs of unappeased hunger. For such children the quantity and frequency of feeding are of equal importance, and the age, size, and weight of the child should all be duly considered.*

---

* Incidentally let me remark that the infant's mouth should be kept clean, whether nursed or fed. It is well to cleanse the mouth with a linen cloth or a little absorbent cotton wet with simple cool water after each feeding. The cloth or cotton should be new for each cleansing and burned or destroyed after use.

† *N. Y. Med. Jour.*, February 15, 1890, p. 172.

‡ *Ibid.*, March 15, 1890, p. 303.

For healthy infants fed at proper intervals, and not longer than twenty or twenty-five minutes at a time, the appetite will probably be found, as a rule, to be a safe index of the quantity of food required at each feeding. If too much food is occasionally taken, the excess is very easily regurgitated by young infants, the regurgitation usually occurring shortly after feeding, often before the milk has commenced to coagulate in the stomach. This regurgitation or vomiting is not attended by much, if any, nausea or distress, and is not harmful. But, if it occurs frequently or habitually, in such a case of course it will be wise to diminish the quantity of food, at the same time searching for other possible causes of the vomiting.

The accompanying table will indicate the method which I am disposed to recommend as preferable to any other for the artificial feeding of healthy infants. The quantities given in each column indicate the amount to be separately sterilized for a single meal. A sufficient number of bottles should be prepared and sterilized each morning for the next twenty-four hours.

TABLE FOR ARTIFICIAL FEEDING (Mabbott).

	FOR AN INFANT—					
	1 week old.	1 month old.	3 months old.	4½ months old.	6 months old.	8 months old.
Milk †	5 teaspoonfuls.‡	10 teaspoonfuls.	15 teaspoonfuls.	24 teaspoonfuls.	32 teaspoonfuls.	48 teaspoonfuls.
Water	10 "	15 "	15 "	16 "	16 "	
Lime-water	1 teaspoonful.	1 teaspoonful.	2 "	2 "	4 "	4 "
Cane sugar (or sugar of milk)	½ "	1 "	1 teaspoonful.	1 teaspoonful.	1 teaspoonful.	
Salt	Enough to taste slightly.	Q. s. to taste.	Q. s. to taste.	Q. s. to taste.	Q. s. to taste.	
Approximate quantity	2 fluidounces.	3 + fluidounces.	4 + fluidounces.	5 + fluidounces.	6 + fluidounces.	6 + fluidounces.
Ratio, milk : water	1 : 2.	2 : 3.	1 : 1.	3 : 2.	2 : 1.	
Frequency of feeding	Every 2 hrs. from 6 A. M. to 10 P. M., and twice in the night.	Every 2 hrs. from 6 A. M. to 10 P. M., and once or twice in the night.	Every 2 or 2½ hrs. from 6 A. M. to 9 or 10 P. M., and once or twice in the night.	Every 2½ or 3 hrs. from 6 A. M. to 9 or 10 P. M., and once or twice in the night.	Every 3 hrs. from 6 A. M. to 9 P. M., and once or twice in the night.	Every 3 hrs. from 6 A. M. to 9 P. M., and once in the night.

An infant of average size at birth weighs about seven pounds; at a week or ten days old it weighs about the same, and from the end of the first week or ten days after birth it should gain about four ounces weekly—subject to considerable fluctuations.

The chief reason for diluting cow's milk is because cow's milk contains much more caseine—the curd-forming element—than is contained in human milk, and this is difficult for the child to digest. In diluting the milk with plain water the milk is rendered less sweet than human milk, and hence we add a little sugar of milk or ordinary cane sugar; for a similar reason a little salt is added, and it may be desirable to add cream. And, as mother's milk is alkaline in reaction, and cow's milk, after it has been standing a few hours, usually becomes neutral or slightly acid, the addition of a little lime-water prevents the change or restores the normal reaction. The lime-water also assists in causing the milk to coagulate in the stomach in much smaller curds than otherwise, rendering it easier of digestion and more like human milk, which coagulates in very fine *flocculi*. The lime-water may also be of advantage in furnishing material for the ossification of the bones.

---

* In feeding more frequently than every two hours, peptonized foods should generally be employed.

† If the infant is not well nourished by the mixture prepared as above, a teaspoonful (or more) of cream may be added to each feeding. Theoretically, the cream, to give the best results, should be obtained from sterilized milk, instead of in the usual way from milk left standing, with its microbes perhaps continually adding toxic properties to the milk and to the cream. The sooner all milk to be used in infant feeding can be sterilized the better. Some authorities are in favor of always adding cream to diluted milk, for the same reason which I have given for adding sugar and salt—*i. e.*, to restore a proportion of cream similar to that present in human milk, which does not differ greatly from that in undiluted cow's milk. In regard to this matter, I have been accustomed to be guided by the state of nutrition of the child.

‡ In the foregoing table, one teaspoonful may be considered equivalent to one fluidrachm or drachm (ʒ j), and eight teaspoonfuls counted for a fluidounce (instead of six, as is sometimes proper).

For a very young bottle-fed infant the food should consist of about one third milk and two thirds water. As the child grows older the cow's milk does not require so much dilution. At the age of three months half milk and half water is about the proper proportion, and the milk is diluted less and less, until at the age of about eight months the child can digest undiluted milk. It may be well to continue to add a little lime-water to preserve alkalinity.

Dr. A. V. Meigs,* of Philadelphia, has suggested the following method of procuring milk rich in cream:

"One quart of good ordinary milk is placed in a high pitcher or other vessel and allowed to stand in a cool place for three hours; then one pint is slowly poured off from this, care being taken that the vessel is not agitated; the object being to obtain the upper layer of fluid, rich in fat, and leave the lower comparatively poor portion behind."

This weak cream may be used instead of the milk in the formulæ given in my table.

The sugar naturally present in milk is lactose or milk sugar, the chemical composition of which is slightly different from that of saccharose or ordinary cane sugar. But in the process of digestion and assimilation both are converted into glucose or grape sugar—a third variety—and it does not seem to be of much importance whether milk sugar or cane sugar is added to milk for infant feeding. Dr. Brush thinks that cane sugar is better, because milk sugar is very apt to be adulterated,† and milk sugar is more readily converted into lactic acid, the change which takes place when milk becomes sour. Those who recommend milk sugar do so because it is the sugar normally present in milk, and thought to be more easily digested. I advise the use of cane sugar if it agrees with the child. If the child suffers from wind-colic or indigestion, milk sugar should be substituted; and, on the other hand, if milk sugar were being employed and the milk should disagree, I should change to cane sugar. But these symptoms are more apt to be caused by the caseine of the milk than by the sugar.

In using milk sugar, Dr. Meigs advises diluting the milk with "sugar-water" instead of adding the water and sugar separately. This may be done in preparing the mixtures recommended in my table. The sugar-water is to be made in the proportion of eighteen drachms of milk sugar to one pint of water. Dr. L. Emmett Holt ‡ says "the best way of making the sugar-water is by adding eight heaping teaspoonfuls (of milk sugar) to a pint of boiling water." Milk sugar does not dissolve as readily as cane sugar in cold water.

For the feeding of healthy infants, Winckel # says Biedert recommends six mixtures as follows:

No.	Milk.	Cream.	Boiled water.	Milk sugar.
1.	-	8 parts.	24 parts.	1 part.
2.	4 parts.	8 "	24 "	1 "
3.	8 "	8 "	24 "	1 "
4.	16 "	8 "	24 "	1 "
5.	24 "	8 "	24 "	1 "
6.	32 "		16 "	$\frac{2}{3}$ "

"He gradually passes from 1 to 6 and then to pure cow's milk." Biedert's mixtures will be seen to be very similar to those of my table with cream added, and lime-water and salt omitted. Perhaps the water he uses is a harder water than Croton, although boiled. It may also contain more sodium chloride. But when milk is diluted with Croton water, I think my table will give the better results.

For an infant suffering with diarrhœa, or subject to diarrhœa, or for any child in hot weather when diarrhœal diseases are prevalent, barley-water or rice-water may be used to dilute the milk instead of plain water, being substituted for water in my table given above and in the same proportions. Indeed, it is common practice to withhold milk entirely in cases of cholera infantum and infantile diarrhœa, feeding the child with barley-water only for a period varying from a few hours to several days. I usually add to each feeding a few drops of brandy or half a teaspoonful or more of liquid peptonoids (prepared by the Arlington Chemical Company and to be obtained at the larger drug stores).

Barley-water of about the proper strength is made by taking six ounces of pearl barley and washing it well with several waters at ordinary temperature. Then put it over the fire in two quarts of water (added while cool), and let it gradually become heated and simmer down to a quart. The barley-water thus made may be strained or simply poured off. It should be made fresh once daily, and, if used with milk, should be mixed with the milk before sterilization.

When an infant has been fed on barley-water alone for a time, and it becomes desirable to increase its diet, I have at times found *malted milk* a most valuable addition to the barley-water. Mellin's food is also of value in some cases. No one plan of feeding will be found successful in every case. Sterilized milk is not a panacea for all the ills to which infant flesh is heir. The various so-called "infants' foods" found on the market are *not all bad and always bad;* but I shall omit all further reference to them, as I have not space to point out their indications.

The use of condensed milk in New York can not be recommended to any one above the tenement-house plane in the social scale, as it is inferior to fresh cows' milk in many ways, and only to be used where people can not afford to buy a good quality of fresh milk, or can not properly prepare and keep fresh milk.

Some recent experiments made by Hiesland and published by Hirst* are said to indicate that sterilization of milk renders the albumin and caseine of the milk somewhat less digestible. Partially predigested sterilized milk is therefore recommended—*i. e.*, milk subjected to a peptonizing process for a few minutes before sterilizing.

---

* *Archives of Pædiatrics*, December, 1889, p. 833 *et seq.*

† *Ibid.*, August, 1890, p. 605.

‡ *Ibid.*, December, 1889.

# *Text-book of Midwifery*, Am. ed., Edgar, p. 221.

* *Med. News*, Jan. 31, 1891; *vide Med. Rec.*, Feb. 28, 1891.

For sick children with feeble digestive powers, as for adults under similar conditions, peptonized milk, given by the stomach or in nutrient enemata, is of the greatest value. As the caseine in peptonized milk has been artificially digested, it is not necessary to dilute the milk for infants to any greater extent than is customary in preparing peptonized milk for adults. It may be desirable to dilute it, however, in order to supply the system with the requisite relative quantity of water. But for sick children suffering with vomiting and diarrhœa, where only the smallest quantities can be retained, peptonized milk of full strength is a desideratum. The peptonizing process should occupy at least an hour.

After the age of eight or nine months, or, in hot weather, a little later, various articles—bread-crust, bread, crackers, farina, oatmeal, hominy, potato, egg, beef juice, lean meat—are gradually added to the diet, while nursing or bottle-feeding is diminished little by little, the child being weaned about the tenth to the thirteenth month, though bottle-fed children are often given their milk from the bottle much longer, and milk continues to be one of the most important articles in the dietary of childhood.

In conclusion, I can not refrain from remarking that, for delicate children, I look upon cod-liver oil as a *food* and a very valuable one. The pure oil, or a reliable emulsion, in doses of one third of a teaspoonful of the oil, or twice the quantity of an emulsion, three times daily after feeding, for a child at the age of four to six months, increased proportionately for older children—not exceeding one drachm of the oil or two of the emulsion for children under four years of age—will often be followed by gratifying improvement in nutrition and in health. To maintain the improvement, the cod-liver oil should be persisted with for weeks or months if necessary. Cutaneous inunctions are also of value, but their consideration, beyond this mere mention, does not come within the scope of my paper.

19 Fifth Avenue.

THE "McBURNEY POINT."

By RICHARD H. GIBBONS, M. D.,
SCRANTON, PA.

Believing that the attention given to the so-called "McBurney point" is misleading, and that Dr. McBurney himself attaches to it but little of the importance which many who have written or spoken upon the "point" since he referred to it in his paper in your Journal about a year ago have given it, I take this opportunity, afforded by a medical gentleman, who recently, while engaged in discussing the treatment of appendicitis, said: "There existed no longer any excuse for a physician who pleaded ignorance of the 'McBurney point,'" as if the fact of finding the McBurney point made it absolutely certain that it was then time to call in a surgeon. And then what? Why, one would think, to read the foregoing quotation and the sentences immediately preceding and following it, that there was nothing left to do but at once, upon the arrival of the surgeon, to open the abdominal cavity.

Now for the "point." In all inflammations of the abdominal organs, pressure made by the tip or tips of the fingers over the abdominal walls elicits pain, while pressure made by the flat hand will, on the contrary, relieve pain. The only exception to this rule will be found to exist in peritonitis, where pressure of *any kind* will *immediately* bring responsive warning that pain has been produced. The finger-point pressure upon the abdominal muscles will, in most cases, not cause pain until the pressure has been severe, or so deeply applied as to put the muscle on the *stretch*. The exceptions here noted are to be found when the pressure is applied at, or near, or upon its tendinous or fibrous elements. Even in healthy muscles, although apparently healthy abdominal walls may be in a condition differing entirely from that of perfect health, there is an innate disposition to resistance to pressure of a character assuming the pointed means; so that it is necessary and is laid down as a rule in works teaching medical diagnosis to be careful in palpating the abdominal organs to lay the open hand gently upon the walls before applying the pressure necessary to make them give way, which they will not do if one is careless about this rule. So, too, when examining the pelvis by the bimanual method, how careful we must be with the abdominal hand not to cause muscular resistance, thereby thwarting our otherwise best-directed efforts!

In years gone by, and, in fact, to-day, this differentiation may well be applied: pain elicited by the flat-hand pressure over the abdominal region, other things being equal, made peritonitis the probable diagnosis, while pain elicited only by point or finger-point pressure excluded this disease, and made the diagnosis of rheumatism most probable.

In those days everything of a painful nature situated in the muscular regions was looked upon as being rheumatism, while nowadays we can look upon these conditions as septic infiltration of muscular or fibrous structures, these septic conditions being due to various forms of septic influences existing in immediate or remote organs—such as gonorrhœa and stricture, rheumatism, "la grippe," pyosalpinx, local peritonitis, cystitis, metritis, proctitis, anal fissure, hæmorrhoids, or even to the cause to which the trouble is entirely assigned (appendicitis), not because it is truly indicative of the condition known as appendicitis, but because there is an inflammation of an abdominal organ that permits of muscle and fibrous infiltration by means of its intimate connection through the absorbent system. That this is so I am very sure, and any one can demonstrate it to be so by carefully seeking for it. That Dr. McBurney has found severe pain at a point midway between the anterior superior spine of the ilium and the umbilicus goes without further saying. I do not question the assertion. What I do question is that it has any diagnostic value as a "point" especially referable to an inflamed or suppurating condition of the *vermiform appendix*. It is without a doubt found in all these cases, and, previous to general involvement of the peritonæum and its contained organs, this point can be demonstrated at various places over the right half of the abdomen, and, as the general involvement takes place, at more remote and different parts of the abdominal walls. The reasons for finding it at the special point where Dr.

McBurney looks for it is that at this location there is a much greater expanse of fibrous tissue than at any other near-by point of the actual seat of inflammation, and, further, because just at this place we have several quite large sensory nerve filaments distributed to the neighboring parts.

In my own work I always rely to a great extent upon the difference of pressure necessary to elicit pain when endeavoring to decide whether or not the trouble is this, that, or what not. I have often and often tripped up medical men in their diagnosis of peritonitis just by this means of exclusion. In the past year I have specially tested the fallibility of this rule, and have found it to be more than reliable. I will briefly refer to a case in point.

CASE.—During the early part of September I was asked to see a young girl about fourteen years of age. She had just returned from the sea-shore and commenced attending school. The weather was damp and cold and the fires in the school-room were not as yet brought into use. She had spent a week of school hours in this cold room, and previous to this had spent the cold nights and many cold, damp days of August where she was not provided with flannels. On Sunday she partook of a large dinner with rich desserts, consisting of ice-cream, raisins, puddings, nuts, etc. At midnight she was taken ill, and I was called at ten the following morning. I found her suffering from nausea, with temperature 101° F., pulse 100, and red-pointed tongue, right limb drawn up, general pain over the region covered by the obliqui and rectus of the right side, intense pain and apparent swelling over the region of the cæcum and appendix, the characteristic point, styled McBurney's point, constipation, and most of the other symptoms to make up the group attendant upon a case of appendicitis. I gave a guarded prognosis, stating to her family that the child was undoubtedly suffering from rheumatism or influenzoid, although she might be suffering from an attack of appendicitis, in which event it might become necessary to interfere surgically. She was given Epsom salts in drachm doses every two hours, combined with sulphate of morphine and atropine, one twelfth of a grain of the former and one two-hundredth of a grain of the latter, with a drop of the tincture of veratrum viride every hour. I saw her every four hours, on each occasion finding the "McBurney point" more marked than on the preceding visit. She gradually kept growing worse, until at the end of forty-eight hours her symptoms were somewhat alarming. I had purposely kept from her until this time any of the specific drugs now used in rheumatic conditions, when at this stage of development I gave her several doses of three grains each of salicylate of sodium. She at once began to improve, and was entirely well in a very short time. Following this she had another just such an attack, three months after. The same treatment as first tried in the initial attack gave in the second attack but little or no relief, when, upon again trying the salicylate, she rapidly improved and regained perfect health, which she still retains. It must be understood that she had the therapeutic effects of the drugs first tried on each occasion; the constipation had been overcome, she had the somnolent effects of the morphine with the relaxing effects of the atropine, etc. So it will not be fair to assume that the treatment originally instituted had any but slight effects upon the attack, neither will it do to suppose that the case was one of recurring appendicitis.

So now, after considerable risk at overtaxing your readers, I would say that the "McBurney point" may be found at any location throughout the body where, with point pressure, muscle structure in septic or inflamed condition is put upon the stretch. It is more easily found at points where tendinous elements enter into the muscle structure, and finally, at the complete tendinous structure, characteristic pain is very quickly elicited as soon as the parts are made tense. So it is but little wonder that at the location indicated by Dr. McBurney the characteristic pain is usually found, for here we have an extensive area of fibrous structure entering into the formation of the linea semilunaris, as well as the sheath of the rectus muscle. The fibrous structure here is so extensive indeed that it is always considered a comparatively safe location for opening the abdominal cavity, and Dr. McBurney makes use of this fact in defending the Langenbeck-Sands-McBurney incision when surgical means are resorted to, for does he not argue that here it is always possible to open the cavity without exposing muscular tissue?

At the time that Dr. McBurney's paper (already referred to) appeared I wrote a letter somewhat similar to this, but did not offer it to you for publication, leaving the subject for older and wiser heads. But since no article has appeared as yet to take exceptions to the almost positive value given to what Dr. Lewis A. Stimson has named the "McBurney point," I feel that it is my duty to now offer my views in reference thereto. These views were written before the appearance of Dr. Hodgman's article, and, of course, before the report of Dr. Smith's, to both of whose cases I will now refer, as they very materially strengthen the position I attempt to maintain. Dr. Hodgman's case is reported in your Journal bearing date of November 15, 1890. The doctor there, in referring to his case, says: "The McBurney point was exceedingly tender—far more so than any other spot on the abdomen. *The left side was also tender at a point corresponding to the McBurney on the right, yet to not nearly the same extent as the latter.*" (Italics mine.) He further adds that an operation for the removal of a probably diseased appendix was performed, that the appendix was found to be healthy, but that he removed a large quantity of pus from the abdominal and pelvic cavities. His patient, unfortunately, was in a hopeless condition before the operation was begun, and death soon followed. On post-mortem examination, "the cause of the peritonitis became apparent in that the right ovary had been the seat of a large abscess that had burst into the peritoneal cavity," the nearest approach to appendicitis being the statement that "the ovary was lying directly underneath the caput coli." Dr. Smith reports his case in the New York *Medical Record* of a week ago, and with the statement that "McBurney's point was very well marked," and this fact, coupled with other symptoms, prompted him to refer the case from the medical side of the hospital where it was seen to the surgical division "for operation for appendicitis." Here "some delay took place before the operation could be done," during which time other symptoms presented themselves that led to exploratory puncture and incision, revealing the fact that all the symptoms were due to rupture of the kidney. When Dr. Smith reported this case he said that the patient "was doing well." He further adds: "It was only on account of the delay, during which the physical signs changed, that an operation was not done for appendicitis."

435 WYOMING AVENUE.

A CONTRIBUTION TO THE SURGICAL TREATMENT OF JACKSONIAN EPILEPSY;

EXCISION OF THE ARM CENTER.[*]

By EDWARD B. ANGELL, M. D.,
ROCHESTER, N. Y.

LAST June, P. C., Jr., thirteen years of age, a confirmed epileptic for three years and a half, was placed under my care by the family physician, Dr. A. Dann, of Rochester.

Briefly stated, the history and examination indicated a focal epilepsy of severe character, involving the arm and face centers of the left motor area. There was no predisposition to the disease, either inherited or acquired. Its initial symptom had been a brief aphasia of sudden onset, followed six months later by a typical epileptic convulsion. At first the attacks were rare, occurring only at night, but some months after, light seizures recurring paroxysmally were noted in the day time. For some days the seizures were repeated at intervals of five or ten minutes, with less frequency during sleep. Then would follow a period of comparative freedom lasting from one to four months. Each relapse was preceded by a marked dyspepsia with heavily coated tongue, foul breath, sallow skin, and constipation. No paralysis followed the first attack, but very early in the course of the disorder weakness of the muscles affected was noted, and later, after each seizure, momentary palsy, with marked impairment during the whole epileptic period.

Mental development had been retarded in part by compulsory cessation from school. While he was childish he was not at all dull-witted; on the contrary, quick and responsive. In temperament he was happy and hopeful, in no way morose or obstinate—quite an improvement, by the way, over his earlier disposition. The preceding winter, through the advice of an eminent neurologist, the ocular muscles had been cut, with, however, a negative result.

During the period of epileptic status the pulse-rate was increased, the temperature elevated, and the urine slightly albuminous. There was no cranial asymmetry, while measurements showed equal development in the muscles of either side. Nor was there any sensory disturbance.

The signal symptom of a seizure, noted on many occasions, affected the adductor of the right thumb and successively invaded the muscles of the forearm, shoulder, and face. About thirty seconds elapsed during the onset of the convulsion. Tonic contraction persisted for a similar period, while the attack was completed by clonic spasms of equal duration. In severe attacks the right leg was involved with occasionally general convulsions and loss of consciousness. In the far more frequent mild seizures full consciousness with fair control of speech was retained. During all this time bromide in drachm doses daily had been given with fair success. But the present series of seizures had been far more intractable, and the drug had seemed to lose its effect. The severe epileptic state had already lasted over three weeks; the seizures were recurring every five minutes; the case was desperate and evidently becoming worse. The failure of drugs to control the disease, its exceedingly frequent manifestation, the focal character of every seizure, and the evident mental deterioration led me to express the opinion that surgical interference alone offered promise of relief.

A careful examination of the fundus of the eye by Dr. Summer Hayward, of Rochester, with a negative result, together with the absence of headache or scar, suggested the probability of cortical degeneration rather than that of any coarse lesion as the pathological condition. An operation might not be complete without removal of the motor area. Under these circumstances it was decided to delay for a time.

The amount of bromide was very largely increased and nitroglycerin added with better results. During the summer the attacks became infrequent and the patient gained rapidly in strength. But in September the disease again became aggravated, and the family not only consented to the operation, hazardous as it was, but urged immediate action. Accordingly, on the 21st of September, after thorough antiseptic preparation of both patient and chamber, the operation was performed by Dr. Frederick Zimmer, of Rochester.

The technique of the operation need not be dwelt upon. Careful asepsis rather than antisepsis prevailed, and the whole operation was carried out with thorough attention to detail and most satisfactorily completed.

Two contiguous buttons of bone an inch and a quarter in diameter were removed, exposing the motor area of the face, arm, and a portion of the leg. Nothing abnormal in the appearance of any tissue was noted save a flattening and agglutination of the convolutions. By faradaic stimulation the motor centers were readily distinguished, and at one point an exact reproduction of the epileptic seizure was obtained. The suggestion is offered that this measure might be serviceable in locating subcortical lesions preliminary to definite instead of indiscriminate exploratory puncture. Especially would it be of value where a neoplasm, by reason of its consistence, yielded no indication of its presence to the exploring needle. Thorough exploration to the depth of half an inch by probe yielding a negative result, excision of the gray matter of the affected area was considered justifiable. By careful dissection all of the arm center and a portion of the face center were removed, a stream of warm sterilized water being directed upon the field of operation during the whole time.

The dura was properly sutured and the buttons of bone, which had been most carefully protected in a jar of sterilized water at a temperature of 100° to 105° during the interval, were then replaced, one being retained in position by a ledge of bone, the other by a suture through its center. The edges of the scalp were then stitched together and drainage was provided for. A dressing of bichloride gauze, retained by a recurrent bandage, completed the operation.

Very unfortunately, through the carelessness of the histologist to whom it was sent for examination, the portion removed was lost, and no report of its character can be given.

The patient reacted well, consciousness was quickly restored, and within twenty-four hours he could speak easily and had slight control of the leg muscles; but voluntary control of the right arm muscles was permanently abolished. For two days the seizures recurred, though with less frequency and force. By the third day they had ceased entirely. For six days the patient did very satisfactorily; the temperature varied from 100° to 102°, while the pulse-rate was from 120 to 130. Previous to the operation the temperature had ranged from 100° to 101°, and the pulse from 90 to 120. But on the evening of the seventh day there was a sharp rise in the temperature, and it had reached 105° by the eighth. A day or two previous a free discharge of subarachnoid fluid was noted as an ominous sign. While there was neither nausea nor headache, a single distinct epileptic convulsion and the high temperature indicated cerebral trouble.

---

[*] Read before the Medical Society of the State of New York at its eighty-fifth annual meeting.

The wound was reopened and an unavailing search made for pus. The lower button of bone had become detached and was removed. Along the drainage tract a cerebral hernia had pushed up beneath the button and escaped over the margin of the trephine opening.

One remarkable fact of this exploration was the patient's absolute freedom from pain or shock. No ether was administered, and, though the finger was freely used in exploring, no pain whatever, beyond that felt at the margin of the scalp, was experienced, and the patient talked freely during the whole examination. It was a curious sensation to converse with a human being while the index finger was pressing upon the motor area so near the convolution functionally active. Control of the hernia was attempted by strapping, but without success. The quill suture was then employed, flattened strips of lead being substituted for the ordinary quills to secure close coaptation to the scalp. This plan was in a measure successful, and by tightening the ligatures, as opportunity offered, partial union of the scalp margins was effected without producing any symptoms of brain pressure. Temporary improvement again followed; but two slight chills on the eleventh day, and a feeling of stiffness in the nape of the neck, with high temperature and frequent, loose, lemon-colored stools, ushered in a typhoid condition, which lasted until the twenty-fourth day, when death occurred, the temperature having reached 106·5°.

During this period of nearly two weeks the usual meningeal symptoms were wholly wanting, while the abdominal were typical of true typhoid fever. A prodromic history of high temperature and unusual epistaxis made plausible the opinion that typhoid fever existed as a complication, although, of course, a typhoid state of meningitis was carefully considered. Is it possible that the opening in the skull, relieving intracranial pressure, thus modified the usual symptoms indicative of meningitis? A few hours previous to death symptoms of cerebral pressure supervened, and an aspirating needle was thrust into the left ventricle, into the occipital lobes, and beneath the tentorium, in the vain hope of finding pus.

The autopsy was made sixteen hours after death, and revealed extensive inflammation throughout the brain and its meninges. Rigor mortis was well marked. The body was much emaciated.

The circumference of the right arm, both above and below the elbow, was an inch less than that of the left—a change that had occurred since the operation. The marked atrophy of muscles of the right arm rapidly following the excision of the corresponding motor centers in the cerebrum is significant of their influence upon nutrition. The variation in leg measurements was practically nothing.

The remaining button of bone was but slightly adherent to the periosteum. Beneath the trephine opening there was a cavity in the brain substance an inch in depth and an inch in diameter, communicating with the left ventricle; the surrounding tissue was softened; the dura mater directly beneath the buttons was partly absorbed and elsewhere firmly adherent to the vertex; the surface of the left hemisphere was bathed in pus; organized lymph abounded; and the cerebral tissues were injected. All these changes indicated the great extent of a destructive inflammatory process. There was atrophy of the cortical gray matter throughout the convolutions of the left hemisphere, particularly marked in the motor zone and frontal lobes. There was no trace of the punctures made by the needle, except where it had penetrated the ventricle and tentorium.

The only other pathological changes consisted in slight hepatization of the inferior lobe of the right lung, and congestion, but not ulceration, of Peyer's patches.

The present case, notwithstanding its unfortunate termination, is brought before your considerstion because of its bearing upon a recent field of experimental surgery. The desperate condition of the patient alone justified resort to so hazardous an operation. Neither Dr. Zimmer nor myself expected the development of a brain hernia, to which we attribute the fatal meningitis. In view of the fact that symptoms of cerebritis were noted earlier than those of meningitis, there is some question as to the origin of the inflammation. Could compression of the cerebral tissues between the buttons of bone and skull with resultant necrosis have been its cause, or was it due to septic infection solely?

In our own opinion, the fatal meningitis was due to the hernia alone. Until that became well established the case progressed favorably. Whatever may be the case when the dura is not opened, unquestionably not enough stress has been laid upon the possibility of such a complication when the brain itself is invaded by the surgeon. Whether or not the buttons of bone should be replaced is yet an unsettled question. But, most assuredly, were we to repeat the operation we should not needlessly jeopardize the result by attempting to restore the bony continuity of the skull. The reopening of the wound to remove the ununited button gave altogether too great odds to the protruding brain.

In the management of the hernia the quill suture succeeded far better than the strapping at first employed, and suggested the query whether it should not have been used earlier. Certainly the lead strips suggested by Dr. Dann served the purpose admirably.

Finally, is it justifiable, in the absence of sure indications of a tumor, depressed bone, or other coarse lesion of the brain, to trephine for Jacksonian epilepsy? Or, opening the skull and discovering no apparent abnormal condition, even after conservative probing, is it good surgery to cut through the dura and excise a portion of the cortex implicated?

IMPROVEMENT IN THE VISION OF MYOPIA BY TREATMENT WITHOUT GLASSES.

By W. H. BATES, M. D.

Case I.—Frank G., aged eighteen, began treatment March 1, 1888. He had been using a solution of atropine, two grains to an ounce, in both eyes for a week. Pupils dilated *ad maximum*, throat dry, and cheeks flushed. The best vision obtained with both eyes without glasses was $\frac{1}{25}$ the normal. With − 4 D. S, vision $\frac{2}{5}$ the normal. Cloudy vitreous.

Treatment.—Iron, cod-liver oil, laxatives, counter-irritation over the spine, and the removal of hypertrophies in the nose.

March 30, 1888.—The vision of both eyes without glasses $\frac{1}{3}$ the normal.

Case II.—Sam. J., aged eighteen, began treatment March 5, 1888. Vision with both eyes $\frac{1}{25}$ the normal. With − 6 D. S., vision normal.

Treatment consisted of atropine in the eyes, iron internally, seton in temples, and nasal treatment.

March 24, 1888.—Vision had improved to almost normal without glasses, $\frac{20}{20}$ −.

Case III.—Miss A., aged thirty, began treatment December

31, 1887. Vision with both eyes without glasses $\frac{1}{20}$. With — 10 D. S., vision $\frac{2}{3}$ the normal.

Treatment which seemed to improve the vision was the removal of hypertrophies in the nose, tonics, and counter-irritation.

April 10, 1888.—Vision of both eyes $\frac{1}{2}$ the normal without glasses.

Case IV.—Mr. M., aged twenty, began treatment July 2, 1888. Vision with both eyes $\frac{1}{25}$ the normal. Extensive chorioidal changes, and floating bodies in the vitreous. Ordered atropine and iodide of potassium.

July 7, 1888.—Vision without glasses not improved. With — 11 D. S., vision $\frac{1}{2}$.

At different periods the nose was operated upon with only temporary improvement.

Three leeches, applied first to the left temple, and at a later date to the right temple, did not improve the vision.

August 4th.—Vision the same as at the commencement of treatment. Atropine is still used.

The iodide of potassium was stopped and the vision improved. Various methods of counter-irritation over the epigastrium were employed with benefit.

January 2, 1889.—Vision without glasses $\frac{1}{3}$ the normal.

Case V.—Hattie K., aged twenty-four, began treatment June 21, 1888. Vision with both eyes without glasses $\frac{1}{20}$ the normal. With — 5 D. S., vision $\frac{2}{7}$ the normal.

Ordered atropine and iodide of potassium.

July 7, 1888.—Vision without glasses slightly improved.

Treatment of the naso-pharyngeal catarrh was now begun and continued.

August 25th.—Vision of both eyes without glasses $\frac{1}{5}$ the normal.

Case VI.—Louisa H., aged eight, began treatment November 1, 1889. Vision without glasses $\frac{1}{20}$ the normal. Ordered atropine and blue glasses, to stop her studies.

December 7, 1890.—With $-4{\cdot}5$ D. S. $\bigcirc$ $-5{\cdot}5$ D. C., vision $\frac{2}{7}$ the normal.

January 17, 1891.—Pupils dilated *ad maximum* by the atropine. Vision of both eyes without glasses $\frac{2}{5}$ the normal.

Case VII.—Nellie K., aged thirteen, began treatment October 31, 1890. Vision of both eyes without glasses $\frac{1}{40}$ the normal. With -10 D. S. $\bigcirc$ $-5{\cdot}5$ D. C., vision $\frac{2}{7}$ the normal. Patient was under atropine until November 16, 1890, when the vision was found to be unimproved with and without the above glasses. Atropine stopped.

Vision was improved by using a solution of bichloride of mercury as an eye wash.

Wearing a pressure bandage at night was beneficial for a time.

Treatment of the nose improved the vision.

A tenotomy of the tendon of the external rectus muscle of the left eye also improved the vision.

Eserine, by contracting the pupil, improved the vision early in the treatment, but made the vision worse when tried February 2, 1891, with the vision without glasses improved to $\frac{2}{7}$ the normal.

March 6, 1891.—Vision without glasses $\frac{2}{5}$ the normal.

Contracting the palpebral fissure (squinting) makes the vision worse.

Conclusions.

1. The vision in many cases of myopia can be improved very much by treatment without glasses, and frequently this improvement is so marked as to render glasses unnecessary.
2. An astigmatism of even 5 D. did not interfere with the good results.
3. The greater the myopia and the older the patient, the longer is the time necessary to obtain the best results.
4. The use of glasses during the treatment must be prohibited.

131 West Fifty-sixth Street.

Correspondence.

LETTER FROM PARIS.

Rabies in Paris.—Sulphonal in Diabetes.—Accidental Inoculation with Syphilis. — Excision of the Initial Lesion of Syphilis.

Paris, *March 22, 1891.*

M. Dujardin-Beaumetz has rendered his annual report to the Council of Hygiene and Salubrity of the Seine upon the subject of rabies. From the report we find that during the year 1890 there was but one death from rabies in Paris—that of a child seven years of age who was bitten by a mad dog on November 22, 1889. The child was taken to the Pasteur Institute and underwent treatment from November 24th to December 3d. In the month of February following she died of rabies. The child had been bitten in the calf of the right leg. From this same report we find that the deaths here from rabies during the last ten years have been as follows: In 1880, 4; in 1881, 21; in 1882, 9; in 1883, 4; in 1884, 3; in 1885, 22; in 1886, 3; in 1887, 9; in 1888, 19; in 1889, 6; in 1890, 1. From the other part we have the number of dogs known to have been rabid as follows: In 1883, 182; in 1884, 301; in 1885, 518; in 1886, 604; in 1887, 644; in 1888, 863; in 1889, 367; in 1890, 203. M. Dujardin-Beaumetz draws attention to the fact of the diminution of the number of cases of rabies in man in the years which followed those in which the number of deaths had been large. He attributes this fact to the increased public attention drawn to the disease by reason of the number of deaths and to the fact that at such times the people reported to the authorities very carefully all the animals that had been in contact with rabid animals, and this allowed of the more complete extermination of the contaminated animals; and, moreover, all the persons bitten by mad dogs, or those supposed to be mad, betook themselves to the Pasteur Institute for treatment. In 1890, ninety-five inhabitants of the Department of the Seine were treated there. Of these, twenty had been bitten by animals proved experimentally to be rabid, forty-five by animals that a veterinary surgeon had pronounced rabid, and thirty by animals supposed to be rabid. Among all these persons there was not one death, the infant referred to having been bitten in 1889.

According to the *Mercredi médical*, an Italian physician, Dr. Casarelli, has satisfied himself, by experiments made at Professor Groeco's clinic, that sulphonal, in doses of thirty grains daily, diminishes considerably the glycosuria, the polyuria, and the polydipsia of diabetics. He obtains these results not only with an antidiabetic diet, but also in cases where the diet is mitigated. In general, the quantity of thirty grains a day ought not to be surpassed, because a dose of forty-five grains, which is well borne at the start, ends by producing vertigo and somnolence; but these accidents subside rapidly when the quantity of the drug is lessened.

Professor Fournier, at the Hôpital St. Louis, presented to the class recently a very interesting case of syphilis by accidental inoculation. The patient, a man of about thirty five years, had undergone a course of treatment at the hospital for pediculosis, and had been discharged as cured. Several weeks later he returned complaining of a new skin lesion situated upon each forearm, which proved to be the initial lesion of syphilis. The lesions were situated, one on each forearm, at the spots that would come in contact with a table were the arms folded and the patient leaning forward resting himself upon a table. The lesions were well developed, with the characteristic appearances, induration of the base, etc., together with induration of the neighboring lymphatic glands. Professor Fournier drew marked attention to the case; he said that, considering the mode of development, etc., it must be acknowledged as a case of accidental contagion, which was as instructive for the class as unfortunate for the subject.

The only mode of explanation was that the patient had scratched the arms and had leaned upon a table upon which the syphilitic virus had been accidentally deposited. The case was afterward presented to the French Dermatological Society, and in the discussion which followed, Dr. M. E. Besnier said that it was extremely interesting, because at such great hospitals as the St.-Louis and Midi it was extremely rare to see syphilis transmitted even by means of improperly cleansed instruments, and he mentioned the rarity of its transmission by dental instruments. On the other hand, he said, there had been a series of examples where otologists had accidentally inoculated syphilis by using the same instrument in several cases without cleansing. It was fair to conclude that the syphilitic virus did not long remain virulent upon the surface of objects upon which it was deposited. M. Hardy said he coincided with the opinion of Dr. Besnier, and said he knew of no case where syphilis had been transmitted by the speculum, and yet this instrument was often improperly cleansed. In the case where the inoculation had been traced to aural instruments nearly all of them had occurred in the practice of one man, and since his death this mode of inoculation had been extremely rare.

M. Verchère mentioned having seen an internal chancre in a woman at the Saint-Lazare, where formerly one syringe had been used in common, and he thought the patient had been inoculated through the medium of the syringe. He had since ordered that each patient should have an individual syringe.

M. Le Pileur said that in his nineteen years' connection with the Saint-Lazare he had never seen a single case of syphilis transmitted by instruments, while it was common to see the disease transmitted from one woman to another.

At a recent meeting of the Medical Society of Paris, M. Julien stated that he had occasion in ten years to practice excision of syphilitic chancres eighteen times. He had always proceeded with the strictest antiseptic precautions, and removed not only the point of ulceration, but also all the surrounding indurated zone. Under these conditions the amount of substance lost was never less than an area of the size of a twenty-five-cent piece, and ordinarily was as large as that of a fifty-cent piece. His mode of operating was to raise the chancre with a tenaculum and to dissect it out with the aid of scalpel or scissors. It was very easy afterward to examine the wound and, if one had not removed all the diseased tissue, to remove as much more as might be necessary. He applied sutures afterward, and followed the whole with an antiseptic dressing. He used local anæsthesia by cocaine, and ordinarily the wound healed by first intention. He thought that the operation was not always useless, and that it was legitimate to propose it when the chancre dated but a few days back and the glands were healthy, provided one was sure of being able to remove the chancre with a large zone of the tissue that surrounded it.

THE
NEW YORK MEDICAL JOURNAL,
A Weekly Review of Medicine.

Published by
D. Appleton & Co.

Edited by
Frank P. Foster, M. D.

NEW YORK, SATURDAY, APRIL 18, 1891.

TACHYCARDIA AT THE MENOPAUSE.

It is not many weeks ago that the subject of rapid pulse received attention in our columns, but of the numerous authors cited, none had studied the phenomenon in connection with the climacteric. This study has occupied the attention of Professor Kisch, of the Prague faculty, a resident of Marienbad, and he has made it the basis of an able article in a recent number of the *Prager medicinische Wochenschrift*. Marienbad is a well-known resort for women approaching the change of life, and the author has had ample opportunities for studying the varied and complex nervous and circulatory disturbances of that period. As his conception of tachycardia differs somewhat from that of other reliable observers, it may be well to give his definition of it. He defines it as a purely nervous affection, not dependent upon any organic disease of the heart and blood-vessels, manifesting itself in a change of the motor function of the heart, and making itself evident in a decided, at times, extraordinary, increase of the frequency of the heart's contractions. Although the various morbid phenomena attendant upon the change of life have received ample attention, this functional affection of the heart has gone almost unnoticed. Stokes, however, in his well-known work on *Diseases of the Heart*, mentions a form of palpitation at the menopause that is at times attended with paroxysmal attacks of great rapidity of the pulse.

Kisch's clinical picture of the affection is as follows: At the time of the menopause, occasionally after the cessation of the menses, but most frequently between the ages of forty and fifty years, when the menstrual flow is beginning to show signs of change, paroxysmal attacks of palpitation may occur in women whose heart's action has previously been quite normal. These attacks sometimes come on without any provocation, and at other times they are evoked by slight causes, such as would have no effect in a normal state of health. The attacks may come on while the patient is in any posture—walking, sitting, or lying down, and even during sleep. The subjective symptoms accompanying the attacks are a feeling of oppression and of anxiety, throbbing in the carotids and in the abdominal aorta, severe headache, and fugitive sensations of heat and of a rush of blood to the head. Occasionally there are noises in the ears, flashes of light before the eyes, and dizziness, and, in rare cases, syncope may occur. Objectively, it is found that the pulse numbers from 120 to 150, and may even reach 200. In most cases it is full, powerful, and regular. The sphygmographic tracings show a high pulse wave, a rapid and abrupt rise of the ascending line, and an equally rapid and abrupt fall of the descending line. Redness of the face, neck, and chest is occasionally noticed. This may appear only in patches, disappears in a few minutes, and is attended with a burning sensation. Free perspiration on the head and back occurs at times. The attacks may come on several times in a day, and last from a few minutes to a quarter of an hour. Associated with these cardiac disturbances there are usually uneasiness of mind and body, disability for continuous work, and restless sleep disturbed by dreams. In Kisch's cases anæmia did not exist; on the contrary, there was a tendency to plethora, and the patients had a dread of a stroke of apoplexy. The duration of the affection may vary from a few weeks to two years and longer.

In the tachycardia of the menopause the author thinks the ætiological factor is hyperplasia of the ovarian stroma. This increase of connective tissue in certain predisposed individuals acts in some way, unknown as yet, upon the terminal nerves of the ovarian tissue and, through them, in a reflex manner upon the sympathetic nerve—the accelerator of the heart. This assumption receives support from the fact that tachycardia is frequently seen after the operation for the removal of the ovaries, which is followed by a shrinking process of the internal genital organs. In the way of treatment, the author has obtained the best results from a systematic course of mild purgatives, suitable dietetic and hygienic regimen, such as mountain air, a bland diet, and active bodily exercise, and wet applications to the lower part of the abdomen. A course of some weeks at Marienbad is usually followed by improvement. Small doses of the bromides generally afford relief from the unpleasant sensations attending the attacks.

VENOUS CHANGES IN ARTERIO-SCLEROSIS.

A recent feature in the proceedings of the Baltimore Clinical Society was a paper, or more properly a lecture, by Dr. William H. Welch, of the Johns Hopkins Hospital, on Arteriosclerosis, of which mention occurs in the *Journal of the American Medical Association* for November 1, 1890. The speaker devoted his attention chiefly to an exposition of the researches of Thoma, which he had been able not only to accept, but to verify by investigations in his own laboratory. According to Thoma and Welch, the series of pathological changes known as arterio-sclerosis originates in a weakening and a yielding of the middle coat of the arteries. As an attempt at compensation for this defect, there is a deposit formed, and consequent thickening of the intima takes place. This view systematizes the subject in its various aspects, and shows how under different circumstances—in the fœtus, after labor, in connection with Bright's disease, etc.—alterations in the volume of the peripheral circulation are met by a corresponding reduction in the caliber of the more central vascular channels.

But other views are equally tenable. In the *Gazette hebdomadaire de médecine et de chirurgie* for October 11, 1890, the same interesting subject is considered, and the question is raised, whether the veins are not attacked in arterio sclerosis in the same manner as the arteries. Quite recently Sack, Menhert, and Bergmann, three pupils of Thoma's, have studied the relations of phlebo-sclerosis to arterio-sclerosis. The author of the paper in the French journal, Dr. Spillmann, of Nancy, has long been of the opinion that venous atheroma must exist, microscopically if not visible to the naked eye. One of his clinical assistants undertook to solve this question, devoting a year to the purpose, and answered it affirmatively. Although the large veins of the upper part of the body, as a general thing, he says, offer no macroscopic lesions, atheroma is found in the inferior vena cava, in the iliac veins, in the renal, femoral, and popliteal veins, and most frequently where these veins bifurcate and at the point of insertion of the valves. Macroscopical phlebo-sclerosis is of two kinds—disseminated and diffuse. The elastic fibers are diminished, the connective tissue is increased.

From the investigations made, it is safe to say that all cases of arterio-sclerosis in an advanced stage present evidences of phlebo-sclerosis as well. Disseminated lesions exist oftenest in the iliac and popliteal veins, next in frequency in the inferior vena cava and the saphenous veins, and more rarely in the brachial and renal veins. These venous lesions progress slowly, without the radical change that transforms the arteries into veritable hard pipes. When the sclerotic cachexia is fully established, disseminated atheroma exists in the veins of the lower part of the body, and occasionally in those about the head. Thoma and his pupils, Sack, Menhert, and Bergmann, consider that arterio-sclerosis and phlebo-sclerosis have the same origin—viz., in a weakening and yielding of the middle coat of the veins and arteries and the so-called attempt at compensation. But Dr. Spillmann thinks this weakening and yielding are far from proved, for arterio-sclerosis in its early stages is marked by arterial over-distention and spasm of the arterioles, which is not an indication of weakness in the muscular coat. And how, he asks, can diminished resistance produce sclerosis of the intima? Monro, Bouillaud, and Virchow consider atheroma due to primary arterial inflammation. The development of arterio-sclerosis is marked by stages known as arterial sclerosis, atheroma, myocarditis, and venous sclerosis, the whole circulatory system becoming affected at last, and the complexus of lesions constituting *angeio sclerosis.*

MINOR PARAGRAPHS.

BRONCHIECTASIS IN YOUNG CHILDREN.

This disease has received but meager notice from most authors, though it is by no means uncommon in childhood. It is discussed by Dr. J. W. Carr in a recent number of the *Practitioner*. It is, of course, always secondary to some antecedent lung trouble, and is most common in ill-nourished and rickety children. In such children the bronchial catarrh of measles or whooping cough readily extends downward, and tends to become chronic, or it may result in acute broncho-pneumonia. The child is further weakened by the acute specific fever *per se.* These causes combined tend to weaken the bronchial tubes and impair their elasticity. It must be remembered that while, for convenience, bronchitis, collapse, pneumonia, and pleurisy are described as separate diseases, in reality they are generally associated, especially in children, and most of all in young children. In infants it is not unusual to find the diffuse form of broncho-pneumonia extending until it involves large tracts of lung tissue and simulating croupous pneumonia. At the same time bronchitis will be present, with, perhaps, small patches of collapse and even a little lymph on the pleura. It is in conditions like this that bronchiectasis most commonly appears. While several diseases may separately produce it, it is a combination of them that, as a rule, brings it about. It is not known whether the condition is due simply to passive dilatation of the bronchi or to the formation of fibrous tissue outside their walls, but it is probable that both conditions are usually concerned in the process. The elasticity of the bronchi is reduced by chronic bronchitis and pneumonia, and dilatation may follow from the strain of coughing. Secretions collecting in the dilated portions perpetuate the inflammation, which gradually extends to the intcralveolar fibrous tissue, setting up a fibrosis. As the new fibrous tissue contracts, the weakened walls of the bronchi are drawn still farther apart. The symptoms are vague and vary in different cases. Fœtor of the breath is not common. There is frequently a violent or paroxysmal cough. Unless it is affected by some acute inflammatory attack the temperature is normal and in the late stages subnormal. The physical signs alone usually suggest rapid destruction of lung tissue, and distinct cavernous signs are readily elicited. These signs, especially the gurgling râles, show great variations from day to day, and the patient may, instead of deteriorating in general condition, gain flesh and strength. When the disease is extensive the prognosis is bad. It must be founded, however, on the results of repeated physical examinations rather than on improvement in the general condition. The condition is a practically incurable form of organic lung disease.

DEATH FROM DISEASE OF THE CERVICAL GLANDS.

A FATAL termination due directly to diseased cervical glands is an unusual occurrence. The accident is, however, possible, and with the slightest symptoms of interference with respiration, either direct or indirect, delay in operative interference is dangerous. This is true even when the enlargement of the glands is moderate and recent. A number of such cases have been reported in the English journals, and they would seem to be more common in England than in this country. Dr. Thornton, in a recent number of the *British Medical Journal*, reports two of considerable interest. The first patient was a girl, eight years of age, having a few small isolated glands on each side of the neck. The mediastinal glands showed no enlargement and there was no pressure on the trachea. The child gradually wasted and after five months died. A week before her death she began to cough up foul-smelling pus. The autopsy showed the superficial cervical glands to be ordinary tuberculous glands, caseating in parts. Immediately behind the lower end of the trachea there was an abscess cavity with two or three small glands matted together, degenerated and discharging into the abscess sac at its upper end. Between the lower end of the abscess and the trachea there was a ragged opening. In the second case the glands gradually enlarged to form compact masses, filling both anterior triangles, but without causing apparent pressure on the trachea. Symptoms indicating suppuration were present, but none could be detected on examination. The respiration was free, but had a peculiar harsh sound, which had been noticed also in the first case. The patient died suddenly with gasping and choking. An autopsy was not allowed, but, from a consideration of the symptoms and mode of death, it is reasonable to suppose that the boy died from the sudden bursting of a glandular abscess into the trachea, with the pouring out of sufficient matter to cause suffocation or perhaps spasm of the glottis. It is at least certain that death resulted in a subject whose only apparent disease was enlargement of the cervical glands.

FILARIAL CHYLURIA TREATED WITH THYMOL.

SURGEON-MAJOR LAWRIE, of Hyderabad, India, has reported in the *Lancet* two cases of the cure of chyluria depending on filariæ in the blood by the use of thymol. He believes that by the internal administration of that drug the filariæ may be destroyed both in the blood and in the tissues, and the chylous disease, when dependent on this parasite, entirely cured. One of these two patients was admitted into the hospital suffering from retention of urine due to the presence of a large chylous clot in the bladder. Catheterism brought away a small quantity of chylous urine, but the vesical distention was not relieved. Perineal section was performed, and a large quantity of white clot removed. The urine continued chylous, and filariæ were found in the blood at night. The patient was never free from fever, although quinine and various other remedies were faithfully applied without any effect. Thymol was then expriment-ed with, in doses of a grain every four hours; at the end of a fortnight two grains were given. After this treatment had been continued a week longer, the symptoms began to improve, and a month later the patient was almost well and no filariæ could be detected in the blood. When the man was admitted into the hospital he was greatly emaciated and almost in a dying state. He is now, a year later, well and strong and stout. In the second case, five-grain doses of thymol were the maximum, given thrice daily, that point being gradually reached between October 6 and November 23, 1890, on which day the patient was discharged cured. Chyluria and filariæ were no longer present.

THE MITIGATION OF DRUG INTOLERANCE.

THE Paris correspondent of the *Lancet* states that Dr. Féré has found some instances in which the intolerance manifested toward certain drugs could be controlled by intestinal antisepsis. Sometimes the failure of the drug to act in an ordinarily kindly way, being such an exceptional occurrence, is set down to the fault of the individual, and is attributed to his "idiosyncrasy of intolerance." When this condition obtains, the individual does not at all times evince the same intensity or kind of antipathy. Dr. Féré has gone further and has made some observations that lead him to assert that, by practicing intestinal antisepsis with naphthol and some other like substances, patients who have formerly been unfavorably affected by even small doses of the bromides will cease to be intolerant. Epileptic patients of this kind, for example, will, when naphthol and salicylate of bismuth are given, bear large doses of bromide of potassium without any inconvenience. The eczema and psoriasis sometimes following the use of borax will be prevented if the intestines have been rendered aseptic. Dr. Féré's experiments have been chiefly in the cases of epileptics, but he adds that the application of intestinal antiseptics as a check to drug intolerance will not be limited to that class of cases.

THE TREATMENT OF INFANTILE PARALYSIS.

THE following is an outline of the treatment of infantile paralysis recommended by Simon (*La France médicale*, February 13, 1891). At first, counter-irritation over the spinal column at a point corresponding to the origin of the roots of the nerves affected. For this purpose the least painful agents should be chosen. The functions of the skin should be stimulated at the same time by means of baths of hot water or vapor given in the bed. Chloral, aconite, and conium may be employed to calm nervous excitement. After the first eight days electricity should form the basis of the treatment. Simon uses a weak galvanic current, applying the positive pole to the shoulder and arm, the negative pole being placed in a basin of water in which the child's hand rests. The sitting should never last more than eight or ten minutes. At a later stage faradism may be used, always with the greatest caution. Among drugs, nux vomica is of the greatest service. A drop of the tincture is given twice daily, at the two principal meals. At the end of ten days, or earlier if indicated, the nux vomica should be replaced by arsenate of sodium, a sixty-fifth of a grain at a dose. The use of these two remedies alternately is to be continued throughout the case. Salt and sulphur baths are recommended, but only in the late stages of the disease. Above all, Simon enjoins us never to be discouraged, as the treatment must necessarily be very long.

THE PEOPLE'S BATHS.

The New York City Mission was recently made the administrator of a fund of $6,600 subscribed by a few philanthropic persons, to be used for the erection and maintenance of public bath-houses. At a conference of several of the leading charitable associations of the city it was thought best that the work should be undertaken by the Association for Improving the Condition of the Poor. Accordingly, the City Mission has turned the fund over to that body, and also leased to it for a term of years, at a nominal rental, a lot of land adjoining the Broome Street Tabernacle, on which to build a bath-house. The association has advanced the additional funds needed for the first bath-house, about $17,000, and contributions are now asked for to repay this sum and to establish other bath-houses. The first building, with a capacity for five hundred baths a day, each bather being insured absolute privacy and cleanliness of quarters, is now verging on completion. A member of the medical profession, Dr. Gouverneur M. Smith, is on the committee having the undertaking in charge, and physicians may rely upon perfect sanitary regulations being enforced. We feel sure that they will be glad to call the attention of their wealthy patients and friends to the deserving character of the work.

THE ELIMINATIVE TREATMENT OF PUERPERAL SEPTICÆMIA.

From a study of infectious diseases in general, and from observations on the methods of elimination of toxic substances from the organism by the natural emunctories, Héliodor de Swiecicki (*Gazette hebdomadaire de médecine et de chirurgie*) advises the employment of these means to rid the system of poison in puerperal septicæmia. Of course, the early treatment of this disease, if the case is seen in time, is, first, by asepsis and antisepsis by means of uterine irrigation, etc.; and, secondly, by the use of alcohol and every means to prevent the poison from overpowering the organism. But, if the morbid germs and their products have surcharged the blood, the author says, the production of exaggerated diuresis and diaphoresis would be a rational method of eliminating the morbid elements. The treatment consists of subcutaneous injections of pilocarpine and the drinking of large and frequent draughts of sterilized chloride-of-sodium solution. If there is any difficulty in the patient's swallowing the solution, it is to be introduced directly into the stomach by means of a tube. The author reports the success of this method of treatment in several grave cases of puerperal septicæmia. The amelioration of the symptoms was prompt, the temperature falling, the pulse becoming less rapid, and the rigors disappearing in a very short time. The patient must be watched closely for any sign of heart failure, in the event of which small doses of alcohol are to be given.

INDISCRIMINATE MEDICAL CHARITIES.

The *Lancet* for February 28th contains the notice of a meeting of medical men to consider the question of hospital abuses and the advisability of taking collective action to make known the views of general practitioners as regards hospital reform to the special committee of the House of Lords now sitting to inquire into hospital management. Quite a number of prominent medical men were present at this meeting, and after considerable discussion the following resolution was proposed, seconded, and carried *nem. con.* That a provisional committee be formed with a view to organize general practitioners to protect their mutual interests, especially in regard to the abuses of medical charities. The taking of this step by the London general practitioners is quite in accord with the feeling existing in New York. A recent number of this Journal refers to the stand taken by one of our leading dispensaries in this matter, and recommends the adoption by other charitable institutions of such measures as will best protect the interests of the physician and also prevent the demoralizing influence of carelessly applied charity.

TYPHOID FEVER COMPLICATED WITH JAUNDICE.

Dr. R. L. Macdonnell writes to the *Montreal Medical Journal* for April as to the rarity of jaundice as a complication of typhoid fever. He himself has had only one case that he can recall. In that case the patient was pregnant and there was an overloaded colon, so that a mechanical cause may have produced the icteric symptom. In Pepper's *System of Medicine* the author of the article on Typhoid Fever states that he has never seen this complication, and is inclined to think that it is very rare in this country. Murchison met with only three cases, all of which were fatal, although in two the jaundice had disappeared before the patients succumbed. Altogether, the cases collected by him numbered only nine, all of which, save one, were fatal. Griesinger had seen jaundice ten times in six hundred cases of fever, and several of them ended in recovery; Liebermeister, six cases in fourteen hundred and twenty; and Hoffman, ten in two hundred and fifty.

A PROPOSED INTERNATIONAL AMERICAN MEDICAL CONGRESS.

Dr. Charles A. L. Reed, of Cincinnati, purposes introducing at the Washington meeting of the American Medical Association resolutions to the effect that an invitation be issued to the medical profession in the various countries of North and South America to hold a congress in the United States, the arrangements as to time, place, and organization to be left to a committee made up of one member from each State and Territory and one each from the army, the navy, and the Marine-Hospital Service. Dr. Reed wishes his project discussed before the May meeting takes place.

ITEMS, ETC.

The New York Academy of Medicine.—At the next meeting of the Section in Ophthalmology and Otology, on Monday evening, the 20th inst., a paper on The Treatment of Ulcer of the Cornea by the Actual Cautery will be read by Dr. J. H. Claiborne, and one on Contagious Diseases of the Eye, by Dr. Achilles E. Davis.

At the next meeting of the Section in General Medicine, on Tuesday evening, the 21st inst., a paper on American Childhood from a Medical Standpoint will be read by Dr. Henry L. Taylor; one on Fel

Bovis Inspissatum as a Therapeutic Agent, by Dr. William H. Porter; and one on The Value of Auscultatory Percussion as a Method of Diagnosis, by Dr. F. W. Jackson.

At the next meeting of the Section in Obstetrics and Gynæcology, on Thursday evening, the 23d inst., Dr. Herman L. Collyer will report A Case of Delivery at Six Months and a Half, with a Viable Child; and Dr. Robert A. Murray will read a paper on The Association of Rectal and Pelvic Disease in the Female.

At the next meeting of the Section in Laryngology and Rhinology, on Tuesday evening, the 28th inst., Dr. W. C. Phillips will present Notes on Aristol in the Treatment of Disease of the Nose and Throat.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported during the two weeks ending April 14, 1891:

DISEASES.	Week ending April 7.		Week ending April 14.	
	Cases.	Deaths.	Cases.	Deaths.
Typhus	1	0	3	1
Typhoid fever	10	4	6	2
Scarlet fever	225	16	235	34
Cerebro-spinal meningitis	4	1	2	1
Measles	321	17	357	22
Diphtheria	94	32	93	30
Small-pox	0	0	1	0
Varicella	6	0	12	0
Whooping-cough	9	0	4	0

The New York Polyclinic.—Dr. Edward A. Ayers has been elected to the professorship of obstetrics.

The Mercy Hospital, of Pittsburgh.—Dr. Thomas H. Manley has been appointed to conduct the examinations in New York of candidates for appointment as internes, on April 29th.

The Jenkins Medical Association, of Yonkers, N. Y.—The special order for the next meeting, to be held on Thursday evening, the 23d inst., is a paper on Appendicitis, by Dr. P. H. Pyne.

The Death of Dr. Augustus Purdy Williams took place on Saturday, the 11th inst., at his father-in-law's house, in New York. Dr. Williams, who was fifty-two years old, was a native of New York and a graduate of the College of Physicians and Surgeons. He served as a medical officer of the navy during the War of the Rebellion. After the close of the war he practiced for a few years in New York, and then in Rutherford, N. J. For the past three years he had been unable to practice, on account of failure in health. He was an excellent practitioner and a highly esteemed citizen.

Army Intelligence.—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from April 4 to April 11, 1891:*

Hoff, John Van R., Captain and Assistant Surgeon, now in New York city on leave of absence, is, by direction of the Acting Secretary of War, assigned to duty as an additional member of the board of medical officers constituted by Par. 18, S. O. 52, March 7, 1891, from this office, to meet in New York city, for the examination of candidates for admission to the Medical Corps of the Army, etc. Par. 6, S. O. 78, A. G. O., Washington, D. C., April 7, 1891.

Marine-Hospital Service.—*Official List of the Changes of Stations and Duties of Medical Officers of the United States Marine-Hospital Service for the three weeks ending April 4, 1891:*

Wyman, Walter, Surgeon. To inspect Delaware Breakwater Quarantine Station. March 27, 1891.

Purviance, George, Surgeon. Detailed as chairman of Board of Examiners. April 3, 1891.

Sawtelle, H. W., Surgeon. To proceed to Rockland, Me., on special duty. March 25, 1891.

Gassaway, J. M., Surgeon. Granted leave of absence for five days. April 2, 1891.

Godfrey, John, Surgeon. Detailed as member of Board of Examiners. April 3, 1891.

Irwin, Fairfax, Surgeon. Detailed as recorder, Board of Examiners. April 3, 1891.

Peckham, C. T., Passed Assistant Surgeon. Granted leave of absence for ten days. March 26, 1891.

Wasdin, Eugene, Passed Assistant Surgeon. Granted leave of absence for thirty days. March 27, 1891.

Stimpson, W. G., Assistant Surgeon. To proceed to Charleston, S. C., for temporary duty. March 26, 1891.

Society Meetings for the Coming Week:

Monday, *April 20th:* New York County Medical Association; New York Academy of Medicine (Section in Ophthalmology and Otology); Hartford, Conn., Medical Society; Chicago Medical Society.

Tuesday, *April 21st:* Medical Society of the State of California (first day—Sacramento); New York Academy of Medicine (Section in General Medicine); New York Obstetrical Society (private); Ogdensburgh Medical Association; Medical Societies of the Counties of Kings and Westchester, N. Y.; Passaic, N. J., County Medical Society (annual); Baltimore Academy of Medicine.

Wednesday, *April 22d:* Medical Society of the State of California (second day); New York Surgical Society; New York Pathological Society; American Microscopical Society of the City of New York; Medical Society of the County of Albany; Philadelphia County Medical Society.

Thursday, *April 23d:* Medical Society of the State of California (third day); New York Academy of Medicine (Section in Obstetrics and Gynæcology); New York Orthopædic Society; Brooklyn Pathological Society; Jenkins Medical Association, Yonkers, N. Y.; Roxbury, Mass., Society for Medical Improvement (private—annual); Hartford, Conn., Medical Association (annual); Pathological Society of Philadelphia.

Friday, *April 24th:* Medical Association of Montana (first day—Helena); Yorkville Medical Association (private); New York Society of German Physicians; New York Clinical Society (private); Philadelphia Clinical Society; Philadelphia Laryngological Society.

Saturday, *April 25th:* Medical Association of Montana (second day); New York Medical and Surgical Society (private); Worcester, Mass., North District Medical Society (annual—Fitchburg).

Letters to the Editor.

HELLER'S TEST FOR ALBUMIN IN THE URINE.

Randleman, N. C., *March 5, 1891.*

To the Editor of the New York Medical Journal:

Sir: In your issue of February 28th there is a most admirable article by Dr. Charles W. Purdy, on Examination of the Urine for Life Insurance. In a word, I consider it by far the best paper on the subject that I have ever seen. However, the doctor has made one omission to which I think attention should be called. In discussing *albumin* he says: "Perhaps the most popular test is by means of Heller's nitric-acid test. . . . It has, however, at least two sources of error which should be borne in mind."

These, he says, are the *urates* and *oleoresins.* To these sources of error should be added that from *nitrate of urea.* True, it is not often that the crystals of *nitrate of urea* form at the junction of the acid and urine; but, when they do occur, they constitute a more likely source of error than either the urates or oleoresins, for the reason that the *upper surface* of the layer thus formed is much more *sharply defined* (clear-cut) than that of the urates or oleoresins; therefore the zone formed by nitrate of urea *more nearly resembles albumin* than either of the other two does.

I may add that nitrate of urea is easily distinguished from albumin by attention to the following points:

1. The nitrate-of-urea zone is formed rather in the *upper stratum of the acid* than *between* the acid and the urine, as albumin is.
2. The urea *crystals*, which are visible to the naked eye, *project down into the acid*, resembling *pine straw*.
3. The zone formed by nitrate of urea is *quickly dissipated by gentle heat*.
4. Urine giving this reaction is always of *high specific gravity*.

To be candid, I must admit that, as stated above, this source of error is rarely encountered; in fact, Dr. Thacher, who is professor of urinary chemistry at the New York Polyclinic, has told me that he has never seen it; but, as each case of urinary analysis must be judged by its own peculiar features, and the fact that this condition does sometimes occur, this *source of error* in "the most popular test" has an importance that should not be overlooked. In my own lectures on this subject I never fail to mention it.

Again, this condition may sometimes occur in the presence of albumin, as recently happened in my practice.

CASE.—Joseph B., aged fifty-one years, was under the care of Dr. J. O. Walker, by whose courtesy he was seen. He gave a history of seven weeks' illness with symptoms referable to the left lumbar region. He was passing, when seen by myself, eight ounces of urine in twenty-four hours, containing 20 per cent. (by bulk) of urates and *traces of albumin*, and gave by Heller's nitric-acid test the characteristic *nitrate-of-urea* reaction. The specific gravity was 1·029. A diagnosis of pyonephrosis was made, and under full aseptic precautions nephrotomy was done by the lumbar incision, after verification of the diagnosis with the aspirator. A pus cavity was found in the kidney substance. Chloroform was employed, and not more than three drachms was used. The patient reacted well and came from under the anæsthetic perfectly rational, with the pulse 80 and the temperature 98° F. Although his condition seemed so favorable, *total suppression of urine* came on, which resulted fatally on the fifth day. During the first twenty-four hours after the operation only seven ounces of urine were excreted, containing 20 per cent. (by bulk) of albumin, with an *absence* of the nitrate-of-urea reaction. After this only *one ounce* of urine, and that *bloody*, was excreted.

I have given the text and the context of this case that the peculiar condition present—nitrate-of-urea reaction—might be more fully appreciated. Further, I know that a person with just such a case as this is not likely to apply for life insurance, but this possibility should not cause one to overlook the occasional occurrence of the nitrate-of-urea reaction with Heller's test.

J. W. LONG, M. D.

A CASE OF TRIPLETS.

243 EAST EIGHTY-SIXTH STREET, NEW YORK, *April 8, 1891.*

To the Editor of the New York Medical Journal:

SIR: On the 11th of March, in the absence of Dr. Friedrich, I was hurriedly called to a Mrs. W., who was reported to be in labor. When I arrived at the bedside I found that she had already given birth to a child, which I immediately severed from its umbilical cord. From the appearance of her abdomen I suspected an additional increase, and without hesitation I examined *per vaginam*, running the index and middle fingers along the umbilical cord to the placental attachment, when I discovered another fœtus in its liquor amnii, with a distinct vertex presentation. I punctured the membrane, allowing the head to come into the inferior strait, and in about half an hour the second child was expelled from the uterus. Having severed that from its umbilical attachment and not being fully satisfied with the size of the uterus, I made another vaginal examination and found the third fœtus enveloped in its membrane, with the liquor amnii intact and the vertex presenting. I punctured that membrane, and the head followed the curve of both diameters without any obstacle and was about to pass the perinæum when Dr. Friedrich entered the room, and I yielded him my place at the bedside. The third child being born, Dr. Friedrich severed it from its umbilical cord and proceeded to remove the placenta. That being done, we examined it and found that the three umbilical cords were attached to it. The uterus contracted after careful manipulation, with but very little hæmorrhage.

The points of interest worth mentioning are that the children did not weigh more than from a pound and a half to two pounds each and are still living, enjoying good health; that each of them had a separate amnionic sac; and that the three umbilical cords were attached to but one placenta. The mother made a good recovery. She had had eleven children before.

CHARLES HOFFMANN, M. D.

STERILIZED MILK FROM THE PRACTICAL STANDPOINT.

MECOSTA, N. J., *February, 1891.*

To the Editor of the New York Medical Journal:

SIR: Having with the greatest interest read the several articles written by Dr. H. Koplik and others in your most valuable journal, I should like to hear the opinion of the several scientific gentlemen in regard to a practical plan to supply the article in question at a reasonable cost—a matter to which I have given a great deal of attention within the past few years.

Led to that point by my residence in one of the best-adapted dairy sections of New Jersey, with the control of upward of a thousand quarts of the best of milk a day, a practical knowledge of the producing end, by an extensive business acquaintance as an old-established apothecary at the consuming end of the milk trade, and not least by most hearty encouragement on the part of friends among practicing physicians in my town, as well as New York city, I intend and hope to accomplish supplying sterilized milk for practical purposes at about ten cents a quart.

Dr. Koplik has no doubt had many unpleasant experiences in his most laudable endeavor to supply this article, judging from his touching such important questions as the cleaning of bottles and pointing to other difficulties likely to arise; and when he arrives at the conclusion that sterilized milk in nursing-bottles may never come into the city markets and within the reach of the poorer classes, I can not but side with him, so far as the supplying it in small bottles is concerned; it can not be done in that way at a cost above pointed to. But what is the use, gentlemen, of standing upon theory? It is sterilized milk you want, and not theory; please excuse me if I am stepping on some one's corns; it sometimes cures them if done hard enough. Does any practical physician suppose that a business man would engage in so risky an undertaking as the supply of even a large quantity of small bottles of this milk just temporarily—that is, for the few summer months in which it is more especially needed? I can answer that and say, No.

The milk trade is a very risky and peculiar one, and you don't want much theory, but all the steady customers you can get and no dead-heads. You can see that I have some experience, so please excuse the frankness of expression.

But if such a thing as supplying a first-class milk, guaranteed so, sterilized at the farm, shipped in quart bottles, properly closed and accessible to all at several depots or by direct delivery by wagons at a cost of ten cents a bottle, has any chance of financial success so far as the finding of a ready and steady market is concerned, I am perfectly willing to put the thing to a practical trial at once and risk my own money in doing so, being quite sure that I shall be able to produce the article of a quality to answer every practical demand in the way of its keeping good for a length of time. I may not be able to give you a milk that you can put on your desk for six months or a year to show how long it has kept good; but if you will drink it yourself, or give it to your babies within a week or two, until my wagon can bring you some more, and it has kept good and sweet all that time, it strikes me very much as if the sterilized-milk supply had been practically put into effect.

Max Wenzel.

Proceedings of Societies.

NEW YORK ACADEMY OF MEDICINE.

SECTION IN PÆDIATRICS.

Meeting of March 12, 1891.

Dr. A. Caillé in the Chair.

Specimens of Urethral Calculi.—Dr. H. Koplik presented several specimens of urethral calculi in children. The first was a fusiform laminated stone which had been taken from a child two years of age. Every time the child had urinated it had given evidences of undergoing a severe paroxysm of pain. Examination had resulted in the finding of a small calculus, about half an inch in length by a sixteenth of an inch in diameter, situated about a quarter of an inch behind the meatus. The second case was that of a child four years old. The patient had been seized with paroxysms while urinating, and had cried out in great pain. The urine came in jets, and small spicula of calculi were voided each time. In both cases the stones were removed from the urethral canal with a mouse-tooth forceps. The calculi in these cases were of renal origin.

Recent Contributions to our Knowledge of Diphtheria.—Dr. J. Lewis Smith, in a paper on this subject, passed in analytical review the most recent literary contributions to the subject. He said that recent French writers had laid it down as a statistical fact that the number of French people was steadily diminishing year by year, and that the cause of this was the constant decimation by diphtheria. In London the deaths from this disease in a year amounted to some four thousand, and in New York the mortality from it and croup was about two thousand per annum. If we designated by the term diphtheria all pseudo-membranous inflammations having a microbic origin, it was necessary to recognize at least two varieties of it—the first originating from the action of the Klebs-Loeffler bacillus, and the second from the action of other microbes. The pathology and symptoms of the two varieties were in some respects different. The author thought it was perhaps better to apply the term diphtheria to the disease produced by the Klebs-Loeffler bacillus, and the term pseudo-diphtheria to those inflammations attended by a fibrinous exudation that were produced by the agency of other microbes. The microscopic examinations and experiments of Klebs and Loeffler had demonstrated the fact that cultures of their bacillus inoculated upon a mucous surface produced the characteristic diphtheritic inflammation. Their observations, with those of others, had shown that this microbe not only was propagated upon the surface where it had lodged and reproduced itself, but that it always remained localized upon this surface. The most minute search had failed to find it in the lymph ducts, blood-vessels, viscera, or tissues in the interior of the body. Therefore, its action being restricted to the surface, it did not in itself produce systemic infection. Systemic infection occurred from a ptomaine produced by the action of the bacillus, which was taken up by the lymphatics and blood-vessels and conveyed to the interior of the body. It had also been shown that the bacillus might remain an indefinite time, without result, upon a normal mucous membrane protected by healthy epithelium, but, if the mucous surface was denuded by injury or disease, inoculation occurred and diphtheria resulted. The bacillus, as demonstrated, was a small linear microbe of about the same length as the tubercle bacillus, but ordinarily of more than double its thickness. It often presented a granular appearance, was stained in two minutes with methyl violet, and was then easily distinguished by the experienced eye. According to Roux and Yessin, if a culture of the bacillus was filtered through porcelain, the liquid obtained was transparent and free from organisms. The filtered liquid thus deprived of the bacillus, inoculated in rabbits and guinea-pigs, produced the ordinary effects of diphtheritic poisoning, such as nephritis and paralyses, but it did not cause a false membrane. Introduced into the circulation of rabbits and guinea-pigs, a very small quantity caused death, but the ptomaine did not produce a false membrane in the animals experimented on. Preserved in a vacuum, it retained its virulence for weeks or even months. It seemed to be allied in its composition to the proteids or albuminoids. The very latest communications of recent investigations had strengthened the belief that the bacillus itself was comparatively innocuous, the poisonous principle in the disease being the ptomaine. The theory could be said to be well established that diphtheria was produced by the Klebs Loeffler bacillus, although pseudo-membranous inflammation upon mucous surface was produced by other microbes.

M. Talmon had stated that not only certain other microbes, but irritating medicinal agents—such as cantharides, chlorine, and ammonia—had the power to excite inflammation with fibrinous exudation which could not be distinguished by its appearance and anatomical characters from that of true diphtheria except by the absence of the cause of the latter disease, the Klebs-Loeffler bacillus. The most common form of pseudo-diphtheria appeared to occur during the course of the eruptive fevers, especially scarlet fever and measles. It was characterized by the production of white patches, which frequently were exactly similar to those of diphtheria, so that the diagnosis was often difficult, but the false membrane did not extend to the larynx, and the general condition of the patient remained in most cases satisfactory, and the disease commonly ended in recovery, and was not communicated as diphtheria to neighboring children. Professor T. M. Prudden had made microscopical examinations in twenty-four cases of pseudo-membranous inflammation, most of them, if not all, occurring in connection with or immediately following some infectious disease—such as scarlet fever, measles, erysipelas, etc. He had not in any instance found the Loeffler bacillus. In two cases he had found only the *Staphylococcus aureus*, and in the remaining twenty-two cases streptococci, not only in the pseudo-membrane and in the adjacent inflamed tissues, but also in the internal organs. In cases complicated with pneumonia chains of cocci had been abundant in the exudation. These cocci had been absent from the throat and tonsils of thirty-one healthy children not exposed to the infection, but they had been found in twelve out of forty children who were healthy but were inmates of the asylum where most of the specimens of pseudo-membrane were obtained. According to some writers, true diphtheria had been known to supervene in the late stage of a scarlatinous inflammation, but the bacillus had never been found early in the disease.

Dr. A. Seibert thought that the classification terms diphtheria and pseudo-diphtheria would hardly be found applicable upon further investigation. Those cases where the Klebs bacillus was found in large numbers would probably prove the most pernicious. In other instances where this germ was present, but in small numbers, the disturbances were most probably due to the presence of other micro-organisms; still it was all diphtheria. The relation in point of numbers of the specific germs to those of other kinds was a most important one.

Dr. J. E. Winters said that it seemed to him that when diphtheria and scarlet fever occurred together in the same case it was invariably after the subsidence of the scarlatinal process that the diphtheria appeared. He had never seen genuine diphtheria during an attack of scarlet fever, but it was a common thing to have it follow that affection.

Dr. H. Berg said that it was almost impossible to make a distinction between true diphtheria and pseudo-diphtheria in a series of cases. He had recently met with an instance in point. After he had treated several boys in one family for follicular amygdalitis, the last one, who had recovered in a day or two and without any treatment to speak of, had, three weeks after, developed all the classic symptoms of metadiphtheritic paralysis. This would teach the speaker never to make a positive diagnosis of pseudo-diphtheria.

In the course of the remarks which followed upon treatment, the use of a solution of chloride of iron such as is employed in the manufacture of the tincture was recommended as being three times as strong as the tincture itself. The use of chlorate of potassium was gradually being discarded, as it was thought to have an irritating action upon the kidneys and to increase the danger of renal complications.

Book Notices.

Œuvres complètes de J. M. Charcot. Tome ix. Avec 34 figures dans le texte et 13 planches. Publication du *Progrès médical.* Paris, 1890. Pp. 571.

This is the ninth volume of a complete collection of the works of Charcot, edited by his friend and pupil, Bourneville. The first volume appeared in 1886, and the tenth is now in press. This ninth volume consists of three parts, the first of which is devoted to hæmorrhage and softening of the brain, the second to metallotherapy and hypnotism, and the third to electrotherapy. It therefore contains much that is of great interest at the present time, particularly with reference to the views of the Paris school of hypnotism and the revival of interest in static electricity. There is also an added chapter on *grand et petit hypnotisme* by Babinski, Charcot's former chief of clinic.

Kurzer Abriss der Perkussion und Auskultation. Von Dr. Hermann Vierordt, a. o. Professor der Medizin an der Universität Tübingen. Dritte verbesserte Auflage. Tübingen: Franz Fues, 1890. Pp. 65.

This is a succinct and synoptical review of the normal and pathological percussion and auscultation sounds of the thoracic and abdominal organs. The author's style is admirably adapted to the subjects treated of, and his successful effort to trace each sound to its discoverer adds greatly to the interest and value of his book.

BOOKS AND PAMPHLETS RECEIVED.

Manual of the Domestic Hygiene of the Child, for the Use of Students, Physicians, Sanitary Officials, Teachers, and Mothers. By Julius Uffelmann, M. D., Professor of Internal Medicine at the University of Rostock. Translated, with the Author's kind permission, by Harriot Ransom Milinowski. Edited by Mary Putnam Jacobi, M. D. New York and London: G. P. Putnam's Sons, 1891. Pp. x–229.

Diabetes: its Causes, Symptoms, and Treatment. By Charles W. Purdy, M. D., Queen's University, Honorary Fellow of the Royal College of Physicians and Surgeons, Kingston, etc. With Clinical Illustrations. Philadelphia and London: F. A. Davis, 1890. Pp. viii–184. [Price, $1.25.]

The Physical Diagnosis of the Diseases of the Heart and Lungs and Thoracic Aneurysm. By D. M. Cammann, B. A. Oxon., M. D., Attending Physician in Class of Heart and Lungs, Demilt Dispensary, etc. New York and London: G. P. Putnam's Sons, 1891. Pp. xii–188. [Price, $1.25.]

The Daughter: her Health, Education, and Wedlock. Homely Suggestions for Mothers and Daughters. By William M. Capp, M. D. Philadelphia and London: F. A. Davis, 1891. Pp. viii–144. [Price, $1.]

Transactions of the Royal Academy of Medicine in Ireland. Vol. VIII. Edited by William Thomson, M. A., F. R. C. S., etc. Dublin: Fannin and Company, 1890.

The Absorption of Immature Cataract by Manipulation conjoined with Installation. Five Illustrations. By Richard Kalish, A. M., etc. [Reprinted from the *Medical Record.*]

A New Method of Laryngeal and Bronchial Medication by Means of a Spray and Tube during the Act of Deep Inspiration. By J. Mount Bleyer, M. D., New York. [Reprinted from the *Journal of the American Medical Association.*]

A Record of the Results of Five Hundred and Twelve Cases of Intubation of the Larynx operated on between 1886 and the Present Year. By J. Mount Bleyer, M. D., New York. [Reprinted from the *Archives of Pædiatrics.*]

Studies in the Decidua and Retained Membranes of the Ovum. Vulvar Œdema complicating Pregnancy. Version before Labor in Malpositions of the Fœtus. By Edward A. Ayers, M. D., New York.

The Transmission of Acquired Variations. By A. B. Richardson, M. D., Cincinnati, Ohio. [Reprinted from the *American Journal of Insanity.*]

Alcoholism: a Consideration of the Symptomatology with Reference to the Pathological Anatomy. By A. B. Richardson, M. D., Cincinnati, Ohio. [Reprinted from the *Cincinnati Lancet-Clinic.*]

The Therapeutic Value of Hypnotism. By A. B. Richardson, M. D., Cincinnati, Ohio. [Reprinted from the *Cincinnati Lancet-Clinic.*]

The Surgical Treatment of Empyema. By James A. Goggans, M. D., of Alexander City, Ala. [Reprinted from the *Medical News.*]

A Case of Intracranial Neoplasm with Localizing Eye Symptoms. Position of Tumor verified at Autopsy. By Charles A. Oliver, M. D., Philadelphia. [Reprinted from the *Proceedings of the American Ophthalmological Society.*]

The Thermometer in Obstetrics and Gynæcology. By A. D. Leith Napier, M. D., F. R. S. Edin. (Two Lectures delivered at the Midwives' Institute.) London: H. K. Lewis, 1890.

On the Use of the Oil of Eucalyptus Globulus combined with other Antiseptics in the Treatment of Scarlet Fever and all Infectious Diseases. By J. Brendon Curgenven, M. R. C. S., L. S. A., etc. London: H. K. Lewis, 1891.

The Differential Diagnosis and Treatment of Multiple Neuritis. By George J. Preston, M. D., Baltimore. [Reprinted from the *Maryland Medical Journal.*]

On the Dangers arising from Syphilis in the Practice of Dentistry. By L. Duncan Bulkley, A. M., M. D. [Reprinted from the *International Dental Journal.*]

A Clinical Study in the Diagnosis and Treatment of Hyperphoria, with a Report of Four Cases. By Howard F. Hansell, M. D., Philadelphia. [Reprinted from the *American Journal of the Medical Sciences.*]

A Study of Sterility; its Causes and Treatment. By Thomas W. Kay, M. D., of Scranton, Pa. [Reprinted from the *Journal of the American Medical Association.*]

Original Research in Relation to Animal Economics: a Socialistic Study. By Frank S. Billings, M. D. [Reprinted from the *Times and Register.*]

Ueber eine neue Untersuchungsmethode der Verdauungsorgane und einige Resultate derselben. Von Prof. Dr. Sahli, in Bern. [Separatabdruck aus dem *Correspondenz-Blatt f. schweiz. Aerzte.*]

Exposición de varios casos de sifilis y de algunas anomalias anatomicas del aparato genital de la mujer. Comunicación presentada al congresso médico de Barcelona por el Dr. D. Juan Soler y Buscalla, etc.

Tenth Annual Report of the Brooklyn Training School for Nurses attached to the Brooklyn Hospital. November 1, 1890.

The Intramuscular Endings of Fibers in the Skeletal Muscles of the Domestic and Laboratory Animals. By Susanna Phelps Gage, B. Ph., Ithaca, N. Y. [Reprinted from the *Proceedings of the American Society of Microscopists.*]

Picric and Chromic Acid for the Rapid Preparation of Tissues for Classes in Histology. By Simon Henry Gage, Ithaca, N. Y. [Reprinted from the *Proceedings of the American Society of Microscopists.*]

The Epithelium of the Brain Cavities. By Pierre A. Fish, Ithaca, N. Y. [Reprinted from the *Proceedings of the American Society of Microscopists.*]

Preparation and Imbedding of the Embryo Chick. By Simon H. Gage and Grant S. Hopkins, Ithaca, N. Y. [Reprinted from the *Proceedings of the American Society of Microscopists.*]

A Comparison of the External and Middle Ear of Man and Cat. By Thomas B. Spence, Cornell, 1890. [Reprinted from the *Proceedings of the American Society of Microscopists.*]

Structure of the Stomach of Amia Calva. By Grant S. Hopkins, Cornell, 1889, Ithaca, N. Y. [Reprinted from the *Proceedings of the American Society of Microscopists.*]

A Dermatological Bibliography. Compiled by George Thomas Jackson, M. D., New York.

Fifth Annual Report of the Ophthalmological Department of the State Hospital at Norristown, Pa., for the Year 1890.

Twentieth Annual Report of the Managers of the Buffalo State Hospital, for the Year 1890.

Sixty-fourth Annual Report of the Directors of the General Hospital Society of Connecticut, for the Year 1890.

Proceedings of the Connecticut Medical Society, 1890. Ninety-ninth Annual Convention, held at New Haven, May 28th and 29th. New Series, Vol. IV, No. 3.

A Guide to the Clinical Examination of the Urine. By Farrington H. Whipple, M. D. (Harv.). Boston: Damrell & Upham, 1891. Pp. x to 206.

The International Medical Annual and Practitioner's Index, 1891. Ninth Year. New York: E. B. Treat. Pp. 580. [Price, $2.75.]

Modern Abdominal Surgery. The Bradshaw Lecture delivered at the Royal College of Surgeons of England, December 18, 1890. With an Appendix on the Castration of Women. By Sir T. Spencer Wells, Bart., F. R. C. S. London: J. & A. Churchill, 1891.

The Medical Dictionary. The Introductory Address before the Medical Department of Bowdoin College at the opening of its Seventy-first Annual Course of Lectures, in Brunswick, February 5, 1891. By Frederic Henry Gerrish, A. M., M. D., Professor of Anatomy, etc. Portland: Mitchell & Bickford, 1890.

A Case of Successful Trephining for Subdural Hæmorrhage produced by Contre-coup. By John Homans, M. D., and George L. Walton, M. D. [Reprinted from the *Boston Medical and Surgical Journal.*]

A Treatise on the Diseases of the Nervous System. By William A. Hammond, M. D., Surgeon-General, U. S. Army (Retired List); Late Professor of Diseases of the Mind and Nervous System in the College of Physicians and Surgeons of New York, etc., with the Collaboration of Graeme M. Hammond, M. D., Professor of Diseases of the Mind and Nervous System in the New York Post-graduate Medical School and Hospital, etc. With One Hundred and Eighteen Illustrations. Ninth Edition, with Corrections and Additions. New York: D. Appleton & Company, 1891. Pp. 16–17 to 932. [Price, $5.]

Reports on the Progress of Medicine.

SURGERY.

By MATTHIAS L. FOSTER, M. D.

A Cerebral Tumor.—In the *British Medical Journal* for March 14th there is the history of a case of cerebral tumor that is of much interest. The diagnosis and localization from the nerve symptoms were made by Dr. Anderson. The patient, a boy sixteen years of age, had been subject to fits for four years and a half. At first the fits were separated by long intervals of time, but finally they became very frequent. They began with pain and numbness in the left thumb and forefinger, which gradually extended up through the hand, forearm, and arm to the face, including the left side of the tongue, and terminated in a generalized convulsion. For a month the numbness and pain in the left hand and forearm had rapidly become worse, and partial paralysis of the left arm, gradually extending to the leg, had developed. Under treatment the fits became less frequent and finally ceased. Examination showed the left limbs to be flabby and cold, the left arm and hand to have decided paresis, and the left leg to have less, but distinct, paresis. There were exaggeration of the left knee-jerk and wrist-jerk, slight left ankle-clonus, and active superficial reflexes. Tactile sensation was perfect. There was a feeling of numbness all over the left side, but to a lesser extent and not constantly in the left side of the face and the left half of the tongue. There was slight facial paralysis, with a little deviation of the tongue and uvula to the left. At a point two inches above and behind the right ear an area of distinct tenderness was found on percussion. Optic neuritis was present in both eyes, but all the changes were most marked in the right one. There was no evidence of a past or present purulent disease of the right ear, but a cicatrix in the left tympanic membrane indicated a previous purulent inflammation of the left middle ear. The urine gave evidence of brain irritation in the increased excretion, relatively and absolutely, of the earthy phosphates. Meningitis or abscess or other suppurative inflammation was excluded by the light color of the urine, the specific gravity (1·022), the amount voided in twenty-four hours (1·2 litre), the relatively decreased urea, and the increased chlorides. From these examinations Dr. Anderson concluded that the lesion was a glioma or sarcoma at about the junction of the middle with the lower third of the ascending parietal convolution.

The operation was performed by Dr. Buchanan. Three days before, the head was shaved and the point at which to open the cranium was determined by the following measurements: The distance between the root of the nose and the occipital protuberance was divided into two equal parts; half an inch behind the central point, indicating the upper end of the fissure of Rolando, was marked. From this point a line was drawn downward and forward at an angle of 65° to indicate the direction of Rolando's fissure. Three inches down, just behind this line, are situated the convolutions indicated in Dr. Ferrier's plan as those which preside over the movements of the thumb and finger. These spots and lines were marked and the scalp was cleansed and kept covered with a compress wet with a carbolic solution. Immediately before the operation a quarter of a grain of morphine was given for the purpose of producing some effect in controlling hæmorrhage from the small vessels of the brain. A semilunar flap was made in the usual manner across the lower part of the fissure of Rolando, three inches wide at the base, the upper part being near the vertex. Two buttons of bone were removed over the motor area and the intervening bone was sawed away. The dura was then opened, but no indication of an abnormal condition could be found until suddenly a convolution burst asunder and a dark-red or brownish body appeared. It was removed without tearing anything and with no hæmorrhage. It was regular and nearly globular, smooth, and of about the size of a walnut. The wound was then washed with an antiseptic solution and the dura was sewed together with fine silk. The pieces of bone, which had been kept in a warm carbolic-acid solution, were replaced, and the semilunar flap was put in position and retained with fine silver-wire sutures. A drainage-tube was introduced at the posterior angle of the wound. A dressing of alembroth gauze and Gamgee cotton was applied with very slight pressure. Recovery from the operation was almost uninterrupted. The tumor was pronounced by Dr. Coats to be a spindle-celled plexiform sarcoma.

A very interesting point in connection with this case is that more than four months after the operation, while waiting to be shown to the Medico-chirurgical Society, the patient was seized with an epileptoid fit similar to, but milder in character than, those from which he had formerly suffered. He himself attributed the attack to the excitement, and the explanation is suggested that the cerebral substance had been pressed upon and altered by the growth of the tumor, so that it had acquired a habit that had not yet passed off. [This recurrence of symptoms may seem to many minds to indicate, possibly, a rapid recurrence of the malignant growth *in situ*.]

Epilepsy from a Depressed Fracture produced with the Obstetric Forceps.—A boy, sixteen years old, came under Mr. Lane's care for epilepsy (*Lancet*, Jan. 17, 1891). He had been subject to these fits for two years, or from the age of fourteen years. When he was about to have a fit he noticed a twitching at the junction of the middle and lower thirds of the leg on its outer aspect, and his foot and knee then jerked in a manner that resembled ankle clonus and knee-jerk. A pain then ran up the outer side of the leg and thigh, through the left side of the trunk to the arm, then to the left side of the face, and, when the fit was severe, to the right arm.

On examination, a groove three inches and a quarter long was found on the right side of the head, extending from an inch behind the coronal suture to about the same distance in front of the lambdoid suture. Its anterior extremity was vertically above the external auditory meatus, and its lower limit reached just below the temporal ridge. From this it extended downward and backward toward the external occipital protuberance. The left arm was the smaller and weaker; its muscles were less firm and its movements were distinctly clumsy. There was no difference in the appearance of the muscles of the legs, but the patient had never had the same confidence in the left that he had in the right leg. By simply raising the left foot to a right angle, a very rapid clonus could be obtained. By using more force a clonus could be produced in the right ankle. The plantar, knee, and abdominal reflexes were exaggerated on both sides, but most decidedly on the left. The depression on the right side of his skull was said to have been noticed immediately after birth, the delivery having been effected with the forceps with much difficulty. It had become less conspicuous as he had grown older. The depressed area of bone was finally removed. It was found to be very thin and vascular, and appeared to encroach but little on the cranial cavity. The dura and subjacent brain appeared healthy. The wound healed by primary union. Since the operation fits have occurred at longer intervals and are much slighter. He has gained power in the left arm and leg, never suffers from headache, and has become mentally much brighter.

Rhinoplasty.—In India, according to Dr. Keegan (*Lancet*, Feb. 21, 1891), the operation of rhinoplasty is usually performed to restore a nose after mutilation rather than, as in Europe, to repair the ravages of disease. Nevertheless, the operation he describes is worthy of careful study, because it is applicable to many cases, and where it is applicable provides nostrils which are useful for respiratory purposes. The flap from which he fashions the nose is taken from the forehead, and is of a peculiar shape, corresponding to the outline of a nose, including the alæ and columna, reduced to a flat surface. The size of the flap depends on the original size of the patient's nose, and its shape must be modified to suit the requirements of each case. Its pedicle should occupy the inner angle of the eye and care must be taken that the angular artery is not wounded. The steps of the operation, in a case in which both alæ nasi, the entire cartilage, and the columna have been removed, are as follows: Two incisions are made from two points slightly external to the roots of the alæ nasi to two points, about three quarters of an inch apart, on the bridge of the nose. A transverse incision now joins the points on the bridge of the nose, and a vertical incision bisecting this flap is made along the course of the junction of the nasal bones. These flaps are dissected up, leaving them attached at their inferior borders to the tissues which cover the nasal bones, and are reflected downward so that their cuticular surfaces look inward to the cavity of the nose and their raw surfaces look outward. When they are placed in this position there is a certain amount of redundant material in each flap, which can be turned to account a little later by being cut away and used for grafts on the raw surface left on the forehead. A pattern of the desired flap is placed on the forehead in a slanting direction and its outline traced with a sharp knife. The flap should include all tissues down to the periosteum, and should be handled as little as possible. The gap left by removal of this flap should have its sides approximated as quickly as possible so as to reduce the size of the raw surface necessarily left. A nidus or bed for the reception of the columna is then prepared, and the large flap is brought down over the nasal bones so that its raw surface lies inferiorly upon the raw surfaces of the two reflected flaps taken from the nasal bones. The free inferior margins of these flaps are united with sutures, the columnar portion of the forehead flap is sutured into the bed prepared for it, and the lateral margins of the forehead flap are accurately adjusted into the two original incisions by the sides of the nose, which have been deepened and beveled for their reception. Two pieces of drainage-tubing are inserted in the newly formed nostrils, and the wounds are all dressed with boric-acid ointment. In a fortnight the pedicle of the new nose is divided, and a wedge-shaped piece is removed from it, so that the new nose shall not be parrot-shaped. As the inside of the nostrils is clothed with skin, the drainage-tubes may be discarded after ten days, and if the operation has been properly performed there can be no contraction of the nostrils. In addition to furnishing this cuticular lining, the nasal flaps give strength and support to the new nose and counteract the tendency to flattening.

Fracture of the Base of the Skull.—James reports (*Australas. Med. Gaz.*, Dec., 1890) a case of fracture of the base of the skull which is noteworthy, not because it remained undetected for eight days, but because it terminated in recovery after an attack of meningitis associated with a purulent discharge from the ear. The patient was thrown from a horse and received apparently a scalp wound. Eight days later, on admission into a hospital, he was delirious, and crusts of dried blood were found in his right ear. There were also other signs indicating a lesion on the right side of the brain. On the next day there was a little bleeding from the right ear, followed by a discharge of clear fluid. On the following day the discharge from the ear became purulent. Four days later the discharge ceased and convalescence progressed steadily. [No note seems to have been made as to whether this patient had previously suffered from purulent otitis or not, and the final test of hearing—"L. watch at 24 in. clearly, R. not heard on contact"—is very unsatisfactory as it is inconclusive. It simply shows deafness which might have resulted from an otitis media as well as from the supposed cause. The bone conduction should have been carefully tested, in order to determine whether the deafness was due to middle-ear trouble or to a lesion of the internal ear. If the hearing was good previous to the accident, and if afterward the bone conduction was absent or nearly so, this would be almost certain proof of extensive injury to the internal ear by fracture through the petrous portion of the temporal bone.]

Neurectomy for Spasmodic Torticollis.—Keen (*Ann. of Surg.*, January, 1891) has formulated an operation, which he has performed once on the living subject, for the relief of spasmodic torticollis by the exsection of portions of the nerves that supply the posterior rotator muscles of the head. These nerves are the posterior divisions of the first three cervical nerves. An incision from two and a half to three inches long is made transversely about half an inch below the level of the lobule of the ear, from the middle line of the neck posteriorly. The trapezius is divided transversely, and the occipitalis major is found as it emerges from the complexus. The complexus is divided at the level of this nerve, which is then followed down the anterior surface of the complexus to where it arises from the posterior division of the second cervical. This posterior division of the second cervical nerve is divided or, better, a portion is exsected. The suboccipital nerve should then be followed as it passes below the border of the inferior oblique muscle, and in the occipital triangle where it lies close to the occiput. It should be traced to the spine itself and cut, or a portion exsected, thus dividing the first cervical. The external branch of the posterior division of the third cervical to the splenius is an inch lower than the occipitalis major under the complexus. When found, it should be divided or exsected close to the bifurcation of the main trunk. This divides the third cervical. The difficulty of the operation is in the depth of the wound and in the trouble in obtaining a good light.

Southam (*Brit. Med. Jour.*, Jan. 31, 1891) excises a portion of the spinal accessory nerve for the same purpose. This operation is much simpler. An incision three inches long is made along the anterior margin of the upper end of the sterno-cleido-mastoid, the nerve is exposed by a careful dissection, and a third of an inch of its trunk is excised just before it enters the lower surface of the muscle. This operation is particularly for cases in which the spasm is tonic in its nature and confined to the sterno-cleido-mastoid. After the operation the spasms seem apt to recur at first, but to become slighter and more infrequent as time elapses.

Pus in the Pericardium.—Bronner reports (*Brit. Med. Jour.*, Feb. 14, 1891) a case in which nearly a quart of laudable pus was evacuated by an incision into the pericardium. The patient had been suffering from pneumonia and empyema, and succumbed to the new complication. The incision was made in the fourth intercostal space beyond the mammary artery, and during the operation "the heart never seemed to come near either the trocar or the scalpel." An exploratory puncture was first made, and the trocar was then used as a guide during the operation.

The Treatment of Psoas and other Large Tuberculous Abscesses by Hot-water Flushing without Drainage.—Barker (*idem.*, Feb. 7, 1891) advocates the following treatment for large tuberculous abscesses: The supposed case is one of a psoas abscess in which the bone lesion is apparently stationary, or perhaps healing, but where a large collection is steadily, though slowly, advancing toward the skin of the thigh. A two-inch incision is made over the lower end of the swelling, through which is inserted a hollow gouge connected by a rubber tube with a reservoir of water, at a temperature of from 105° to 110° F., raised five feet above the level of the operating-table. When the water is turned on, it rushes to the fundus of the abscess with considerable force and washes out the cavity. The more solid caseous matter is dislodged by gently scraping with the scoop and washed out at once. The walls of the cavity are then gently scraped in a methodical manner until the soft lining is loosened and carried away from every part. When the water runs out clear after having been carried to every part of the cavity, the instrument is withdrawn, the excess of water is squeezed out, or removed with sponges if practicable, and two or three ounces of fresh iodoform emulsion are poured in. Sutures are then inserted into the edges of the wound, the excess of the emulsion is squeezed out, the sutures are tied, and a dry dressing is applied so as to exert elastic pressure over the whole area of the abscess for about ten days.

A Chyle Cyst.—De Leon (*Am. Jour. of Obstet. and Dis. of Women and Children*, February, 1891) reports a case in which he found a large mesenteric cyst which contained a dense, coagulated, milk-white liquid that proved on chemical analysis to be identical with chyle. Every characteristic of a dermoid cyst or of an echinococcus cyst was wanting. The cyst was evacuated and the edges of the opening into it were stitched to the abdominal wound. Convalescence was undisturbed. Extirpation was impossible, as gangrene of a large portion of the bowel would have resulted, on account of the fact that the principal part of the cyst wall occupied the place of the mesentery with its numerous blood-vessels. The origin of these cysts is uncertain. Stenosis of the thoracic duct does not explain their formation, though it might cause a widening at the bottom of the duct, and also in cases of stenosis of the thoracic duct ,collateral channels for the conveyance of the chyle into the blood have been noticed.

Gastrotomy for a Foreign Body.—Dr. Lowson records the following case (*Lancet*, Jan. 31, 1891): The patient was an inmate of an insane asylum and had attempted several times to commit suicide before his admission. When admitted he complained of pain and tenderness in the left side. Four days later a prominence appeared under the seventh costal cartilage, which was tender and disappeared with a jerk when pressed. It grew more prominent and became red. Poultices were kept applied, and a week later an opening appeared in the center. The next day an iron wire, about six inches long, projected through the opening. This wire could be pushed back and rotated to a certain extent, but could not be pulled out. Gastrotomy was performed, the incision being made parallel to the left margin of the substernal triangle, and a skewer seven inches and a half long, with an oval eye, through which passed a fragment of the stem of a clay pipe two inches and a half in length, was removed from the stomach. In making its passage through the wall of the stomach and other structures the skewer had set up sufficient adhesive inflammation to glue together the various layers and effectually prevent the escape of the contents of the stomach into the peritoneal and pleural cavities. The patient made a good recovery.

Œsophagitis Exfoliativa.—Rejchman (*Gaz. lekarska; Ctrlbl. f. Chir.*, No. 3, 1891) describes the following unusual case: A man, thirty-three years old, otherwise healthy, who had from time to time had attacks of dysphagia, was suddenly seized with an absolute closure of the œsophagus. On the fifth day of the persistence of this condition a thick, membranous formation was expelled as a result of violent efforts to vomit, but the expulsion of this mass did not facilitate deglutition. On the following day an œsophageal bougie was introduced with considerable difficulty and the passage was made free. After some days the patient passed *per rectum* a membrane which resembled the one previously vomited. The microscopical appearances of the vomited membrane, of which some pieces were 15 ctm. long, 3 ctm. broad, and ⅛ mm. thick, showed that it was composed exclusively of many layers of pavement epithelium like that found in the œsophagus. The writer thinks this case proves that in the œsophagus, as in the vagina and urethra, catarrhal inflammations occur that may cause the closure of the lumen of the canal by the formation of a firm lining of epithelium. A similar case has been observed by Birch-Hirschfeld and described by him as pseudo-croupous inflammation.

Lipoma of the Colon.—Link (*Wiener med. Wochenschrift*) removed a lipoma as large as a man's fist from the mucous membrane of the descending colon in a man forty-five years old. The symptoms that demanded operative interference were occasional obstruction to the bowel and severe hæmorrhage. Before the operation the mass could be felt as a smooth, slightly elastic tumor in the left iliac fossa.

New Inventions, etc.

A NEW "POCKET" INHALER.

By George A. Evans, M. D.,
BROOKLYN.

Five years ago I devised the "pocket" inhaler to which I now desire to call attention.

Its invention was suggested by the conviction that the evaporating surface afforded by the sponge in the ordinary oro-nasal inhaler during inspiration was too small, while, on the other hand, it served during expiration to absorb and accumulate the waste products of respiration.

In addition, it seemed to me advisable to secure the simultaneous operation of voluntary deep breathing through a small orifice in conjunction with local medication of the air-passages.

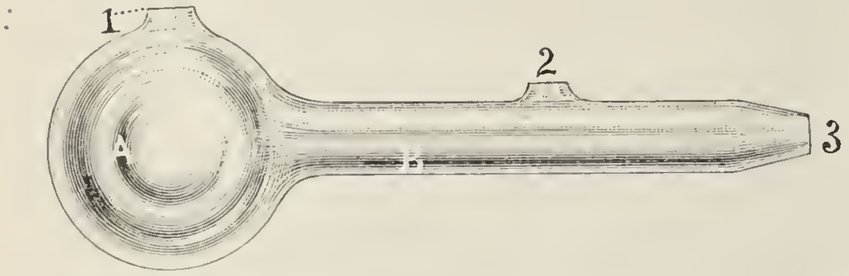
Sufficient experience has been had since the invention of this device to convince me that it possesses positive therapeutic value for the relief of simple catarrhal affections of the upper air-passages, both acute and chronic; chronic bronchitis, with or without asthma; and pulmonary phthisis in its early stage.

Its cheapness and simplicity admit of its use by the poor and ignorant, while the rapid relief from distressing symptoms incident to the affections for which it is recommended will, I think, commend it to all who use it.

It may be had from H. Haslam & Co., of Brooklyn, N. Y., or from any intelligent glass-blower.

It should be used in the following manner: Medicate the sponge in the bowl (A) of the inhaler according to directions to be given; place the open end of the stem (B) well between the lips; close the stem opening (2) with the index finger of the right hand and inspire deeply, lengthening the pause at the end of the inspiratory act to facilitate intrapulmonary gaseous diffusion; cover the opening (1) in the bowl (A) with the index finger of the left hand; uncover the opening (2) and empty the lungs by blowing through the openings (3 and 2) of the stem.

Respiration should be carried on in this manner at the rate of about ten a minute, and continued until the desired effects have been secured.



Half size. Diameter of bowl, A, 2 inches; cross diameter of stem, B, $\frac{5}{8}$ inch; openings in bowl and stem, 1, 2, 3, $\frac{5}{16}$ inch; the bowl, A, is almost filled with soft fine sponge.

The degree of saturation with medicaments to which the sponge in the bowl of the inhaler should be subjected must depend, of course, upon the strength of the solution and its volatility, as well as upon the effect desired.

Various combinations of the following preparations have been used for the relief of simple chronic catarrhal affections of the upper air-passages and for chronic bronchitis, with and without asthma, successfully when other measures had failed:

Terebene,	Merck's.
Ol. pini silvestris,	do.
Ol. eucalypti,	do.

Saturate the sponge in the inhaler and inhale at the rate of ten respirations a minute, for from ten to thirty minutes each sitting, several times daily. Fresh medicament may be poured on the sponge to supply the loss by evaporation, at the discretion of the person inhaling.

For pulmonary phthisis:

Creasote (Merck's), beechwood	equal parts.
Chloroform (pure)	
Alcohol	

M. Pour fifteen drops on the sponge and inhale until the solution has volatilized; repeat as often as may be thought necessary—usually every four hours.

I have seen phthisical subjects greatly benefited by inhalations of this solution as described, when they have been systematically employed in conjunction with the internal administration of the following combination with creasote:

℞ Creasote (Merck's), beechwood	f ʒ iij:
Tr. gentian. co.	f ʒ ij;
Tr. capsici	f ʒ j;
Mucilag. acaciæ	f ℥ ss.;
Aquæ	ad f ℥ iv.

M. Sig.: From half a drachm to a drachm, gradually increased, taken thrice daily, largely diluted with water, after meals.

Menthol inhalations have been given by means of this instrument for the relief of acute catarrhal affections of the upper air-passages, hay fever, etc., as follows:

A solution of menthol in chloroform, two drachms of the former to one fluidounce of the latter, is made and poured on the sponge in the inhaler. After the sponge has become thoroughly saturated, the surplus solution is poured off and the inhaler is allowed to stand uncorked until the chloroform has evaporated; it is now ready for use. When the inhaler, prepared as above, is not in use, it should be tightly corked and kept in a cool, dark place, otherwise the menthol may be lost by volatilization.

Gentle heat or alcohol will rid the sponge of menthol when desired, and chloroform will wash out the other solutions mentioned.

909 Bedford Avenue.

Miscellany.

A Case of Trismus Neonatorum treated with Sulphonal.—Dr. Julius Berenyi (*Pester mediz.-chirurg. Presse*, No. 7, 1891; *Therapeut. Monatsh.*, March, 1891) reports the case of a child, eight days old, who had tetanus on the fifth day after birth. On examination, he found the internal organs normal, the pulse 148, the respirations 50 and quiet. The paroxysms were initiated by crying fits and great restlessness. The skin assumed a bluish color, and around the root of the nose the integument was thrown into thick folds. The nostrils became distended, the buccinators were rigid, the mouth was slightly opened, but would not admit the tip of the little finger. The abdominal wall was hard and tense, the upper extremities were crossed in a flexed position over the chest, the thumbs were spasmodically flexed inward, the vertebral column was perfectly rigid. From nine o'clock in the morning to two o'clock in the afternoon the little patient had five attacks, of which the fourth lasted an hour. Berenyi administered twenty centigrammes (3 grains) of sulphonal in an enema, and also gave the drug by the mouth. After the fifth attack, which was less intense than the others, the child began to take the breast. On the same day three attacks of diminished severity occurred. On the following day the paroxysms became less frequent and intense, and on the sixth day of treatment had disappeared completely. Altogether, ten grammes of sulphonal were employed, without the occurrence of somnolence or disagreeable aftereffects.

To Contributors and Correspondents.—*The attention of all who purpose favoring us with communications is respectfully called to the following:*

Authors of articles intended for publication under the head of "original contributions" are respectfully informed that, in accepting such articles, we always do so with the understanding that the following conditions are to be observed: (1) when a manuscript is sent to this journal, a similar manuscript or any abstract thereof must not be or have been sent to any other periodical, unless we are specially notified of the fact at the time the article is sent to us; (2) accepted articles are subject to the customary rules of editorial revision, and will be published as promptly as our other engagements will admit of—we can not engage to publish an article in any specified issue; (3) any conditions which an author wishes complied with must be distinctly stated in a communication accompanying the manuscript, and no new conditions can be considered after the manuscript has been put into the type-setters' hands. We are often constrained to decline articles, which, although they may be creditable to their authors, are not suitable for publication in this journal, either because they are too long, or are loaded with tabular matter or prolix histories of cases, or deal with subjects of little interest to the medical profession at large. We can not enter into any correspondence concerning our reasons for declining an article.

All letters, whether intended for publication or not, must contain the writer's name and address, not necessarily for publication. No attention will be paid to anonymous communications. Hereafter, correspondents asking for information that we are capable of giving, and that can properly be given in this journal, will be answered by number, a private communication being previously sent to each correspondent informing him under what number the answer to his note is to be looked for. All communications not intended for publication under the author's name are treated as strictly confidential. We can not give advice to laymen as to particular cases or recommend individual practitioners.

Secretaries of medical societies will confer a favor by keeping us informed of the dates of their societies' regular meetings. Brief notifications of matters that are expected to come up at particular meetings will be inserted when they are received in time.

Newspapers and other publications containing matter which the person sending them desires to bring to our notice should be marked. Members of the profession who send us information of matters of interest to our readers will be considered as doing them and us a favor, and, if the space at our command admits of it, we shall take pleasure in inserting the substance of such communications.

All communications intended for the editor should be addressed to him in care of the publishers.

All communications relating to the business of the journal should be addressed to the publishers.

Original Communications.

AN INQUIRY INTO OUR PRESENT KNOWLEDGE OF THE PROGRESS OF MYOMATOUS TUMORS.

1. After the Use of Electricity.
2. After Removal of the Ovaries and Tubes.
3. After the Old Treatment by Ergot, Rest, etc.*

By JAMES F. W. ROSS, M. D., C. M.,
LECTURER ON ABDOMINAL SURGERY, TORONTO UNIVERSITY;
ON GYNÆCOLOGY, WOMAN'S MEDICAL COLLEGE, TORONTO;
GYNÆCOLOGIST TO THE TORONTO GENERAL HOSPITAL;
SURGEON TO ST. JOHN'S HOSPITAL FOR WOMEN, TORONTO.

Before presenting to you anything medical, I wish to thank you for something that I think is general throughout your country—the cordial good-will of your profession toward your Canadian brethren. We in Canada may be small in many ways, but we are endeavoring to keep well to the front in the educational march of progress. The tendency, I am glad to say, has of late been toward a closer union of the medical profession of the two countries, and I trust this feeling will grow until every now and then your various medical associations may in the course of their yearly wanderings stray as far north as Toronto, Montreal, Quebec, or Halifax. I hope that then we may have a larger number of members of the special associations—of those, at any rate, endowed with continental ideas—living in our Canadian cities to welcome such associations should they visit us. In several of our cities we have well-equipped universities. To such as may be teachers in special departments it is of importance that they should be able to meet and converse yearly or oftener with those at work along the same lines of thought. Any reputable practitioner may become a fellow of the British Gynæcological Society, the London Obstetrical Society, or the Edinburgh Obstetrical Society. I believe that barriers to entrance into special societies should not be raised too high, because many young men may be unable to surmount them, and may yet be composed of excellent material that simply requires development. Every association will have its bore, its everlasting talker, but he is easily snuffed out. I thank you for the invitation extended to me by your worthy president. I hope that too much will not be expected from me, knowing, as I do, that my capability of dealing with this subject is far below that of many I see present. My intention is to be a gainer by the discussion, and this paper is simply intended to open the discussion. I am particularly anxious to hear the experience of many of the older practitioners who were brought into contact with myomata long before electrolysis or surgical procedures were carried out. During my twelve years since graduation I have seen many tumors diagnosticated as fibroid tumors that have proved to be of some other nature upon closer inspection after exploratory incision. I will mention a few cases brought under my notice to bring out many of the peculiarities of these tumors that are of importance in any investigation of the results of treatment. In some of these cases mistakes may have been made in the diagnosis. I can remember cases diagnosticated by me as some other form of tumor that proved to be myoma in its very worst form; these cases are narrated shortly to bring out some points to be discussed farther on.

1. A woman died of strangulated hernia while in the General Hospital. She had never had any symptoms pointing to womb trouble, as ascertained from her friends. At the post-mortem we found the uterus studded with multinodular myomata, the largest of about the size of a hen's egg.

2. A patient of my own. Medium-sized fibroid; very profuse menstruation. Pelvic pain, bladder symptoms. I gave ergot for a long time at intervals; she is able to work and in good health and is now past the menopause. Was under treatment for about four years. At times the hæmorrhage was profuse.

3. Case of patient lately seen. Had a fibroid several years ago; suppuration set in without any interference; had severe illness; no surgical treatment; now perfectly well and of normal size.

4. Patient of my own; multinodular fibroids. Removed appendages nine months ago; flooding as much as ever and suffering more pain with menstruation; tumors, three of them, pressing into the uterine cavity but not pedunculated, as found by dilatation of cervix and exploration by finger. One as large as a large goose-egg, others somewhat smaller.

5. Multinodular fibroid. Removed appendages three months ago; not menstruated since. Has a great deal of pain from the right pedicle.

6. Multinodular fibroids. Pain; menorrhagia not very excessive; have been giving ergot for many months at intervals; is feeling well and able to do her work.

7. Case seen in consultation; large fibroid, making patient size of seventh month of pregnancy. Has carried the tumor, to her knowledge, for thirty years. I refused to operate, owing to her age; is able to go about and do her work. No hæmorrhage; has passed menopause. Was examined by a Dr. Widmer, one of our old practitioners long dead, who diagnosticated the case as one of fibroid.

8. Case under my care a year ago. Profuse menorrhagia; refused operation. Medium-sized fibroid; is going on fairly well with ergot and rest each period.

9. Case seen in consultation. Advised operation to remove appendages. Patient refused, went west, and I heard from her physician that she died a few months after, from what he thought was suppuration of the tumor.

10. Case of a personal friend. Saw her in consultation. As large as a woman at the seventh or eighth month of pregnancy. Has always refused operation and is able to travel about and enjoy life. She has had the noticeable enlargement for six or seven years.

11. Case occurring lately in my neighborhood and brought to my notice. Large fibroid suddenly born into vagina and removed with midwifery forceps. Previous menorrhagia and pain. Recovery from this, but death occurred soon after from peritonitis. This extrusion was set down to the wonderful effects of drugs taken—drugs that are known to be inert.

12. Case brought to my notice. Extrusion of fibroid while undergoing treatment by electricity. Case was said to indicate the wonderful powers of electricity.

13. Case of my own. Extrusion of a very large (about six pounds) myoma into vagina two months after enucleation of small one from the fundus of the uterus. Large one not large enough to be recognized at the time of first operation. Extrusion not due to any treatment, but simply occurring spontane-

---

* Read by invitation before the Medical Society of the State of New York at its eighty-fifth annual meeting.

ously. Too large for removal with midwifery forceps. Cut in pieces and delivered. Microscope showed œdematous myoma with no malignant elements. Quite well when last heard from.

14. Case of my own. Fibroid was diagnosticated twelve or thirteen years ago in England. Has had menorrhagia since, but no treatment. Consulted me owing to obstruction during coition. A myoma of about a pound and a half found in vagina and removed. Was well before removal and continues in good health.

15. Case of one of my *confrères*. Had electricity faithfully applied. Was reported as being quite relieved, but went to New York and had hysterectomy performed.

16. Operation done by one of my *confrères* at our hospital last month. She refused hysterectomy. Appendages were removed with the greatest difficulty. Died a few days after. Could have had hysterectomy done without difficulty, and, I believe, with less risk, owing to the difficulties with which ovaries were removed.

17. A case doing well with ergot.

18. Operation at which I assisted the other day. Large, œdematous myoma trying to get through the cervix: cervix dilated by the tumor. No treatment up to this time; while waiting for hysterectomy, suppuration set in. Tumor was scooped out from below; is convalescing. (She made a good recovery.)

19. Case of fibroid. Abscess formed near it. I opened it in inguinal region. A fistula remains. Patient refuses further operation and is doing well, and has been for four or five months. Menorrhagia and some pain.

20. Case seen in consultation. Doing well with ergot and rest during menses.

Cases of Fibroid Tumors diagnosticated as other Tumors.—This error has occurred many times. It is not necessary to detain you by relating such cases. The tumors have had the feeling of obscure fluctuation and have been taken for ovarian tumors. Within three weeks I have had two interesting cases of error. One was diagnosticated by me as ovarian multilocular with colloid contents, but proved to be a huge œdematous myoma, necessitating abdominal hysterectomy; the other was diagnosticated as a fibroid, and proved to be a large, smooth encephaloid mass, springing from behind the uterus. I have also been ready to do hysterectomy in a case where I found the main tumor ovarian, with colloid contents, and below it a fair-sized, soft, œdematous myoma, springing from the fundus uteri.

While with Mr. Lawson Tait I saw the following cases: Abdominal hysterectomy done for myoma fourteen times. Removal of appendages done for myoma twenty-nine times.

In looking over my records, accurately kept during that period, I find such remarks as these frequently appearing: "After opening the abdomen, Mr. Tait could not be sure of the nature of the case. After enlarging the incision up and down, he passed his hand behind the tumor, and then said: 'It is another horrid myoma.'" Those who have done hysterectomy for myoma can readily appreciate the difficulties of diagnosis in many cases even after the hand is in the abdomen. I saw one case in which it required a good deal of courage to puncture what looked as much like a pregnant uterus as a myoma, but proved to be a myoma. I saw an impacted dermoid cyst removed from a lady who had consulted many of the most eminent specialists on this continent and in Europe, and who all diagnosticated the tumor to be a fibroid. She had been treated with electricity. To still further convince any who believe in their own ability to diagnosticate fibroid tumors of the uterus, I will give a list of the cases of mixed conditions found in the pelvis during my stay with Mr. Tait:

1. Myoma, with parovarian cyst.
2. Myoma, with ovarian cyst.
3. Myoma, with ovarian cyst.
4. Myoma, double pyosalpinx, and dermoid cyst.
5. Myoma and ovarian cyst.

I have seen two or three cases of solid ovarian tumors, a case of fibro-cystic tumor of the uterus, and a case of simple pregnancy—all taken to be myomata, and the correct diagnosis only made after opening the abdomen. In a case of unadmitted pregnancy in a young unmarried woman who came to me for the removal of a uterine tumor, after having her positive denial of the possibility of pregnancy given while anticipating the performance of a dangerous operation, I was so doubtful as to the nature of the case, in the absence of the positive symptoms of pregnancy, that I dilated the cervix to explore from below before proceeding with graver measures, and only completed the diagnosis by feeling the fœtal parts through the membranes. She did not abort, but went away to get advice from some one who would agree with her that she was not pregnant. Her tumor had all the feeling of an œdematous myoma. We, who are practically acquainted with the inside of the abdomen, can all agree as to the difficulties of diagnosis.

This brings me down to the most important part of the subject—the effects of treatment. The surgeon flies perhaps too readily to the knife, the electrician jumps at conclusions, and the general practitioner influences his patient according to his personal experience and according to the information he can gain by a close perusal of the very indefinite and contradictory records of the experience of others. Who can say that a case of fibroid would end fatally without operation, without electrical treatment, or without medicinal treatment? Who can positively assert that removal of the ovaries will be all-sufficient? Who can say that a cure is undoubtedly due to the two hundred or three hundred applications of electricity? Who can say that medicinal aids to rest in the control of hæmorrhage will not tide the patient over her menopause? And, lastly, who can say that the menopause will prove to be the goal sought for? I have seen a large myoma removed fourteen years after the removal of the ovaries, and I have seen several tumors grow long after the menopause. Many women menstruate after removal of the ovaries. Many women die from the operation of hysterectomy, and they die when no operation is done. Tumors may suppurate after electrolytic puncture, and they may suppurate when undergoing no treatment. But exceptions do not make rules, nor will one rule apply to all cases. We are too apt to become over-sanguine as to one method of treatment. The methods of treatment now in vogue for the relief of the various symptoms accompanying uterine myomata have been before the profession long enough to allow of a classification of their various merits.

The surgical treatment has many points that recommend it to the operator and some points that do not recommend it to the patient. The great advantage it has over all other methods is the fact that it clears up the diagnosis. The operation of abdominal hysterectomy is, I am convinced, done with unnecessary frequency. If we were all as particular in advising our patients against hysterectomy as the elder Keith was while in Edinburgh, the operation would not be undertaken so frequently. He sent them away several times and did not operate until they returned and entreated him to go on with surgical measures. His results were brilliant. But a curious thought strikes one—namely, what has happened to all of the patients who must have consulted him, owing to his reputation, from all parts of the world since he gave up the operation? I know of but one. She went to him two years ago; she is still increased in size, but able to live on without surgical interference. Electricity was used, with how much or how little benefit it is difficult for any one to accurately determine. I have quoted in my list three cases that have done equally well without any treatment, except ergot, rest, and occasional intra-uterine cauterization to relieve hæmorrhage, and two important factors—viz., time and patience. In medicine we frequently hear a drug recommended to relieve certain symptoms. One observer has, or believes he has, certain results; other observers make equally as critical observations and fail to obtain these results. It is so in what we find written about the uses of electricity in the treatment of myomata. One observer, a firm believer in the treatment, sends his cases out, and appends, after the history of the case, much improved or cured; another, who perhaps follows his cases further and who is prejudiced against the treatment, says none were improved; another takes an intermediate position, and says that hæmorrhage and pain were temporarily relieved in some cases and were not relieved in others. As to deaths, we have them with either of the three forms of treatment, and we have them where all treatment is refused. Some have been too ready to pick out the deaths due to the treatment by electricity. History repeats itself; the profession criticised the operation of ovariotomy with equal severity only a few years ago, but the operation has survived. Every death from chloroform was made use of as an argument against its use. It was believed by some that it was criminal to operate without the steam spray. But we have outlived all that.

Surely the assertions of many honest workers in the field of labor now under discussion are not all vain imaginings. The great difficulty is to be sure that effects come from the causes to which they are ascribed. We all know that a myoma may be present and give rise to no symptoms; that it may cause some pain and no hæmorrhage; that it may cause pain and hæmorrhage; that it may cause hæmorrhage alone; that it may increase in size; increase as to the number of the nodules; increase rapidly by taking on the peculiar œdematous condition, whether single or multinodular; that it may become carcinomatous or calcareous; that it may suppurate; that it may grow after the menopause; that it may be extruded *per vaginam* after becoming pedunculated; that it may become separated from the uterus and become attached to some other abdominal organ; and, lastly, that it may, after increasing in size for several years, again diminish and almost totally disappear. From the many changes liable to occur during the progress of these tumors—changes so very dissimilar in their nature—it is quite possible for the adherents of the three schools of treatment to argue in favor of their several beliefs, and to present cases to support their arguments. Good results can be obtained from all the methods and each will have its share of failures. If one method fails we should try another. My reason for bringing this subject before you is the recent appearance of Mr. Tait's paper on removal of ovaries and tubes for myomata. There can be no doubt that he is right when he says that we can not properly compare the different methods unless the records of cases are more accurately kept, with the name of the physician by whom the case was sent, the date, the result, and when the patient goes home; and her condition two, three, or four years after. Any one may read a paper and record cases as I have just done, but to make such statements thoroughly reliable, more information should be given. The information I have given in relating these cases has been too meager to make them of any value in a collection of statistics. And yet we have all seen dozens of cases recorded in this careless way, and on such meager facts we are asked to extol or condemn a certain form of treatment. In very many cases recorded I find the most important element wanting—the facts leading to the diagnosis and to its confirmation. Because a woman's uterus is three inches and a half long, with accompanying hæmorrhage and pain, we must not jump at the conclusion that she has an interstitial fibroid. Still I find such cases reported as fibroids, and reported as cured by electricity. In one list I find that in fifteen cases the current was passed six hundred and twenty-three times, or an average of forty-one sittings each. Taking an average of three sittings a month, the treatment would last about a year. Of these fifteen cases, five were reported cured. Of these five, no definite evidence of the presence of fibroid tumor is recorded in two. They may have been simple cases of subinvolution. The result is simply set down as a cure, and no subsequent record of the case is given. We have all seen the symptoms of myomata recur at irregular intervals after supposed cure. But yet I am a firm believer in the efficiency and in the danger of abdominal or vaginal galvano-puncture. Apostoli blames this and that so-called avoidable cause as the cause of death; but if it were not for this and that, we should all live forever. He makes a bare statement, in which there is no argument, that if certain things are done, he is assured the cures would be ninety-five out of a hundred. But this is simply idle assertion. The electricians have been too prone to surround their statements with too much mysticism, and have attempted to annihilate those who have been unable to confirm their experience after a patient use of the remedy by saying that there has been a faulty application of the remedy. One would suppose that it required a personal visit to Paris, or many years of study, to qualify an expert gynæcologist to cauterize a uterus with an electrode or to perform galvano-puncture. I believe that there are more first-class batteries lying almost idle in the offices of gynæcologists and general practitioners to-day than there are batteries in use. Electricity, like every new remedy or every renewal of an old remedy, has been recklessly asserted by its supporters to be capable of curing all forms of uterine displacement, to remove pyosalpinx, cure catarrhal salpingitis (with the positive diagnosis of which I am not yet familiar), to haul taut the round ligaments, and all sorts of things that closer observers know it will not do. Such statements read well on paper. The magic powers ascribed to electricity read like the virtues found in the pamphlets of proprietary medicines. Now for some statistics.

	No.	Cured.	Arrested.	Deaths.	Unaffected.
Nelson gives:					
Cases treated by ergot.	153	79	61	11	2
Cutter:					
Galvano-puncture. ...	50	11	25	4	7
Apostoli (with the bare assertion that if so and so, 95 out of 100 would be cured)....	403				
Cases of circumuterine inflammation.......	10				
Tait:					
Removal of tubes and ovaries......	327	311		6	5 failures, 5 incomplete or unsatisfactory results.

Each operator of course endeavors, as he should do, to account for the failures. Tait thinks three out of his five failures were due to incomplete removal of the tubes. He believes that the operator and not the operation has had the five failures. He had also five cases in which the results were incomplete or unsatisfactory; two patients died, respectively, seven and eight weeks after recovery from the operation, from typhoid fever. One died from the extreme anæmic condition to which she had been reduced before operation. The other two of the five he says might be recorded as deaths due to operation. If so, this brings the deaths up from three to eight out of three hundred and twenty-seven cases. Two of these deaths occurred during one week while I was with him. I have each case recorded in my note-book. In one there was also present a small ovarian cyst. The second case was such a difficult one that it was only by pressing the ovaries up from the vagina that they could be removed. The tumor was a large œdematous myoma. A grave question in such cases is, When should oophorectomy give way to hysterectomy? In another case I saw him begin to do oophorectomy, but he was forced, by the excessive hæmorrhage, to finish by performing hysterectomy. No doubt the experience of some operators present will either coincide with or differ from that of Tait. I am not ready to form an independent opinion, and shall not be for a year or two. To perform the operation with a low mortality, two or three things are necessary. The cases with adhesions due to inflammation arising from injury, from galvano-puncture, or other cause, have an element of danger that is not present in simple cases. The cases in which the tumors have attained too great a size to permit of the easy removal of the tubes and ovaries also possess this increased element of danger. There is also danger in operating upon cases that have become profoundly anæmic. To do the operation with the minimum of risk, it must be done early. To do it with the maximum of success, it must be done thoroughly. I believe that separate ligature of the vessels, if it could be carried out, would improve the operation, because two of my patients suffer from what I believe to be pain due to the constriction of nerve twigs in the pedicle. But this is only an idea, and may not be borne out by the experience of others. We must not expect that "pressure pain" will be immediately relieved, because the foreign body still remains behind in the pelvis. The electrician and the surgeon, before beginning treatment, are apt to say that the growth is growing fast. But how long do they wait to prove this to their own satisfaction? The patient's statement is usually accepted and treatment is begun or operation is done without delay. The measurements of abdominal tumors are peculiarly unreliable. I have examined cases and thought the growths increased in size one day and diminished a few days later. I have endeavored to watch the progress of myomata by frequent bimanual examinations, but have not yet reached that perfection of touch by means of which I could state positively any condition of change of size without drawing on my imagination. Plenty of imagination is required in dealing with the dark recesses of the pelvis, and this imagination must be largely used in the reports we see of the results of many gynæcological proceedings if our own experiences are worth anything. A look over the writings of various authors on this subject confirms this statement. One has implicit faith in bichloride of mercury for myomata; another says it is useless, but pins his faith to bromide of potassium. One recommends chloride of calcium while another condemns it. Another has implicit belief in the efficacy of Kreutznach water, while two others say they do not believe that it ever cured a single case of myoma. The consensus of opinion is that ergot is of undoubted use in assisting in the expulsion of the tumor. In the cases I have recorded, both electricity and inert drugs were accorded the same potent properties; but the fact still remains that ergot is very useful. Barnes very wisely says of drugs what we may say of other procedures—"that conclusions are jumped at." These fallacies are due first to the slow growth of the tumor and the resulting difficulty in appreciating a change in the size. Second, to the fact that when they reach a certain size, many have no tendency to increase, even if no treatment is given. Third, to the fact that after the climacteric many remain inert or undergo retrogression, and also that many patients do not come for treatment until this period is approaching, and the supposed effects of treatment, continued, as it usually is, over a long period of time, may only be coincident with the natural processes of cure. My ideas of what the treatment of such cases should be are as follows: If the patient is not near the menopause, is suffering in her health, and is willing to submit to operation, take out her ovaries and tubes. If the diagnosis of the case is not clear and a pelvic mass is found simulating a myoma, urge operation for the double purpose of diagnosis and cure. If the patient will not submit to salpingo-oophorectomy, and has not an intra-uterine myoma that can be removed *per vaginam*, and is suffering from hæmorrhage, the interior of the uterus should be treated with hæmostatics. To this class belong the actual cautery and the positive electrode as well as the older remedies—alum, tannin, iodine, and iron. Ergot or cotton-root bark should be simultaneously administered to such patients. If there is an intra-uterine myoma causing the hæmorrhage, it should be removed from below if possible. If the tumor continues to grow, notwithstanding these procedures, and gives rise to—(1) uncontrollable hæmorrhage; (2) if it sloughs and gives rise to peritonitis and septic symptoms; (3) if it causes dangerous pressure on pelvic or thoracic viscera—abdominal hysterectomy, or myomotomy, or enucleation from below should be performed. If the patient refuses to have this done, galvano-puncture may be resorted to. Keith originally treated some cases by simple puncture. Perhaps as many simple punctures as many of these cases have had of galvano-puncture would bring about a like result. It requires very little irritation to produce alterations in the nutrition of these growths, and cause suppuration or a retrogression. A simple opening of the abdomen has dissipated many tumors. But I believe that galvano-puncture is safer than simple puncture. I am a firm believer in the efficacy of galvano-puncture in many cases, but I do not believe, from what I can hear, read, and see, that either it or intra-uterine electrolysis will cure or relieve permanently anything like the number of cases accorded to them by their supporters, or be accompanied by the low death-rate claimed. Cutter had eight per cent. of deaths and fourteen per cent. unaffected cases after abdominal galvano-puncture. He had eleven cases cured. These were, I should judge, cases similar to those in which many would perform hysterectomy. After abdominal galvano-puncture and after many cases of vaginal galvano-puncture, hysterectomy becomes an almost impossible operation, owing to the presence of adhesions. The question then is, Should galvano-puncture be tried at all in cases that are willing to submit to hysterectomy? Price's statistics prove that the mortality of hysterectomy can be lowered. The statistics of galvano-puncture are as yet so unreliable or indefinite that the above question can not be satisfactorily answered. According to Cutter's statistics, a mortality of twenty-two per cent. for hysterectomy would give the preference to the removal of the tumor by the knife. In comparing the two procedures we should group the failures and the deaths of galvano-puncture against the deaths of hysterectomy or myomotomy, because the latter operations, when not fatal, result in a permanent cure. Time will show that the failures and deaths from galvano-puncture are greater in number than a perusal of the present literature of the subject would lead us to believe, and as it has been with ovariotomy, so it will be with hysterectomy—the operation will be further improved and the death-rate lowered. Electricity is fast losing its fashionable favor, its clouds of mysticism have departed, and we are now in the clearer light able to gain a more accurate view of its real value in the treatment of myomata. The battery is following in the footsteps of the spray, but, like it, it will leave some good behind, though many of its vaunted powers prove to be illusions.

NOTE ON A NEW METHOD OF CATAPHORESIS (ANÆMIC CATAPHORESIS).

By WILLIAM JAMES MORTON, M. D.,
NEW YORK CITY.

As has been well known for years, medicines may be introduced within the human body through the skin by intercalating the part to be treated in the external circuit of the galvanic battery. The statement thus made has long been mainly an empirical one. There is, however, abundant opportunity for renewed and careful experimentation to determine the exact nature of the process. As frequently expressed, the drug to be administered is forcibly pushed in through the skin by the normal flow of the current from the positive to the negative pole. That this action may take place I believe may be demonstrated, but that other and far more complex elements also play their due part is evident, for the human tissues and the liquid constituents upon the two electrodes all together constitute a fairly complex electrolyte. The current used is strong enough to dissociate the ordinary binary compounds, and at each pole we may therefore look for the proper ions. For instance, one writer puts his solution of iodide of potassium upon the anode and refers to anodal diffusion; another places it upon the cathode and finds free iodine at his anode. Neither simple convection nor electrical endosmose will account for all the phenomena involved, and it is evident that the subject must also be studied in its relations to electrolysis and electro-synthesis.

Dr. Peterson, in a number of interesting articles in this Journal, has called renewed attention to the general subject, and it is to be hoped that he will continue his researches.

Among a large number of experiments I have made, the following, I think, illustrates the simple conveying power of the anode: Place upon a flat carbon anode a paste composed of fine graphite (sold for lubricating purposes) and silicate of sodium (liquid glass). Put the electrode, thus prepared, on, for instance, the hairy surface of the forearm, adjusting the cathode to the opposite surface of the limb. Pass a current of from ten to fifteen milliampères for from ten to fifteen minutes. Upon washing the paste off the skin and examining the hair-follicles with a lens or without one, the follicles will be found to constitute a collection of minute black points situated at the contact of the electrode with the skin. In spite of careful washing, these points may be found for weeks after. And, since the graphite could not have been acted upon by the current, it must have been forced into the follicles by the force of its flow. The same paste placed elsewhere upon the skin under similar conditions but without electricity does not give this result. The same experiment may be repeated with lamp-black or India ink.

A new use to which I have put the principle of cataphoresis is to interpose the part to be treated in the interior rather than the exterior circuit of a galvanic couple, but anything more than this allusion to the fact would lead me beyond the scope of this present note, whose purpose is to briefly describe a new method of cataphoric medication which in my own experience affords much better results than the old.

Anæmic Cataphoresis.—To introduce a drug into the human system by the mouth hypodermically or by cataphoresis as ordinarily practiced is to introduce it by means of the blood stream into the entire body. To reach a local part we saturate all parts.

By the method here described I cause the drug to act upon that part alone for which it is intended. This I accomplish by cutting off the blood-stream in the part to be treated by means of an Esmarch bandage or by a rubber ring, especially for the fingers, after the fashion of an umbrella ring, and then treating by cataphoresis. It may be here remarked incidentally that if these rubber rings have not previously been applied in place of a rubber bandage their use may be of service to the surgeon.

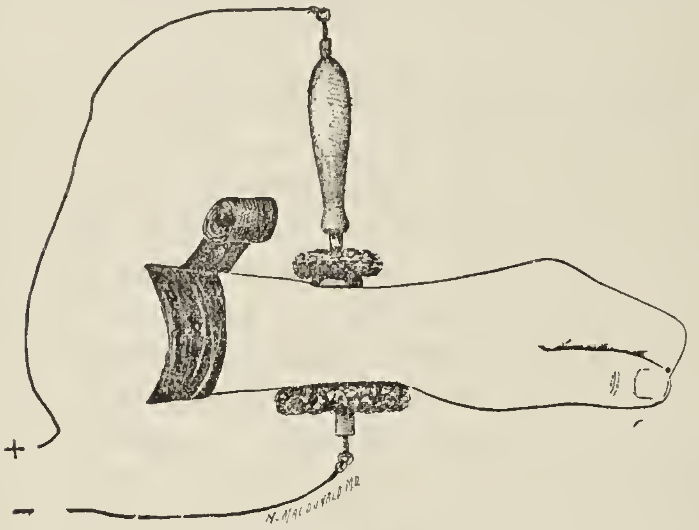


Fig. 1.—Anæmic cataphoresis with Esmarch's bandage.

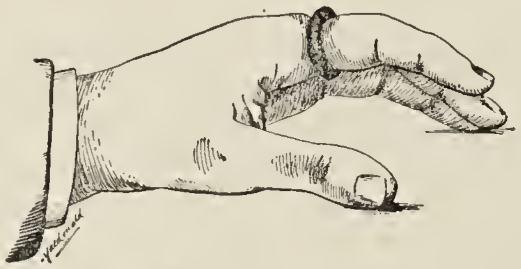


Fig. 2.—Anæmic cataphoresis with a rubber ring (electrical applications as in Fig. 1).

Where the bandage or ring can not be applied I accomplish the same result in a partial manner, especially upon the skin, by exercising compression with the narrow edge of a disc-shaped electrode or simply by a ring of hard material held firmly against the skin, and within whose circumference the cataphoric electrode is placed. My disc-shaped cataphoric electrode is of about the size and shape of a silver half-dollar set into a narrow outside ring of ebonite. It is therefore metallic on both faces. Within one side of the disc thus constructed is placed the medicine, if necessary, absorbed by a piece of paper cut to fit it. The disc is then laid upon the part to be treated and held in place during treatment by any sponge electrode. This little disc electrode is inexpensive, simple, convenient, and efficacious.

By means of the anæmic method of cataphoresis here outlined, the medicine employed, or some electrolytic modification of it, comes in direct contact with the affected tissue or the tissue to be affected, and remains for a considerable time (as long as the bandage remains on) in relation with it. I may roughly compare the old method to placing the positive and negative electrodes upon the opposite banks of a small stream of water; as the medicine passes, whether bodily (electro-convection), or by opposing processions of atoms (electrolytically), from one side to the other, it is washed along out of contact with the very part we wish to affect by the flowing stream. It would seem, then, that if we wished to reduce "cataphoric" medication to an exact science, we must adopt, where practicable, this anæmic method, and arrest the blood stream for the time being.

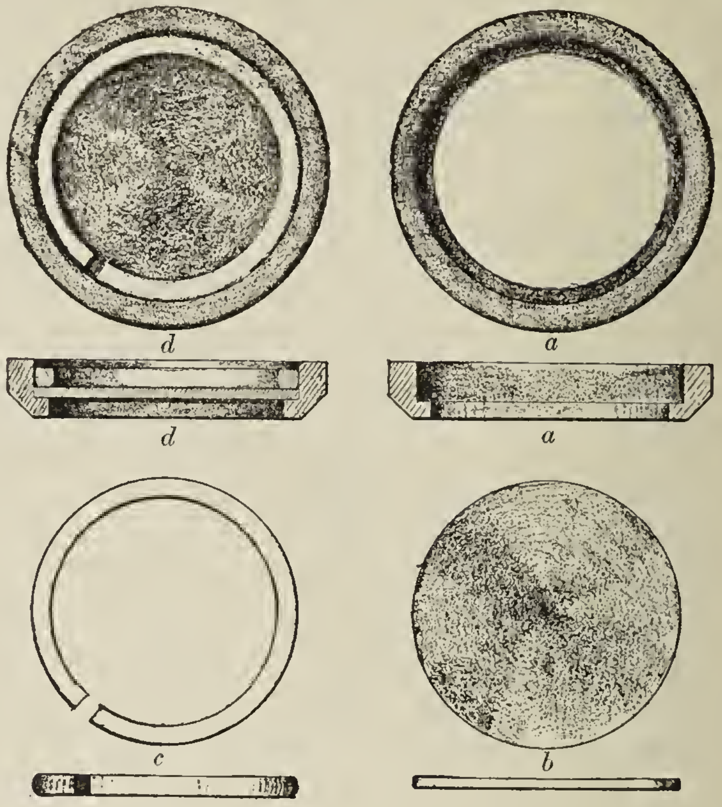


Fig. 3.—A cataphoric disc adapted to use with ordinary electrodes. *a*, *a*, an ebonite ring; *b*, *b*, a metallic plate; *c*, *c*, a spring to hold the plate in place; *d*, *d*, the parts united for use.

A further innovation which I make use of is to incorporate the medicine in a small plaster composed of *conducting* material not capable of electrolysis. Such a material is pulverized gas carbon, though other non-electrolytic conducting substances may be used. Cohesion into a plaster and adhesion to the skin are obtained by gelatin or other adhesive substances. The gelatin, carbon, and medicine in measured dose are mixed, formed into a small plaster, and dried.

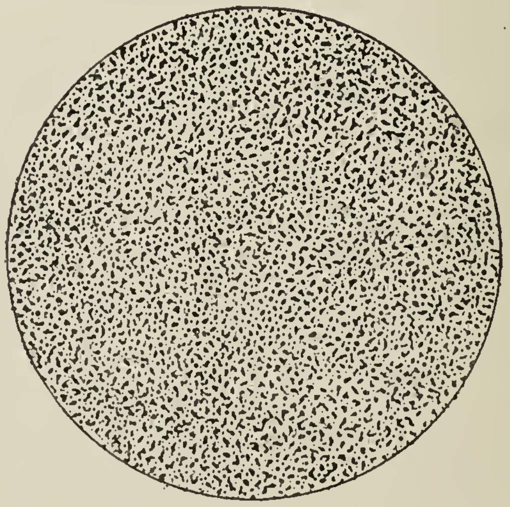


Fig. 4.

When required for use, the plaster is moistened and applied at the point desired, this point, if practicable, rendered locally anæmic, as described. Any positive electrode may be pressed upon the moistened conducting plaster and cataphoresis at once established, the other electrode being applied opposite. A specially constructed cataphoric electrode is thus rendered needless. The novel feature of this part of the method is the incorporation of the medicine with powdered conducting and non-electrolytic substances, and forming it into a small plaster, the whole now becoming a medicated electrode capable, by reason of the current passing through it, of transmitting the medicine into and through intervening tissues. The objection to paper discs would seem to me to be that they are non-conducting except by reason of the properties of the water they contain, or the accidental conducting properties of the medicine employed. And as pure water is practically a non-conductor, it will readily be seen that simply moistening a paper disc will not necessarily insure the conducting quality essential to a successful cataphoric electrode. It is, apparently, to unnoted fallacies of this nature that some of the variable results of electro-therapeutics are to be ascribed. The conducting plaster obviates the objection of difficult or ununiform conductivity, at the same time rendering a special electrode unessential. In practice I use a flat carbon disc electrode held against the medicated carbon plaster. The current should be as strong as can be comfortably endured, generally from five to fifteen milliampères.

Messrs. Fraser & Co., 208 Fifth Avenue, have prepared a variety of medicated plasters in measured dosage and of neutral plasters which may be medicated as desired. As has been said, any electrode may be pressed against the plaster once applied. I should also add that, in my opinion, to get the fullest results, the medicine to be used should be placed at *both* poles and not alone at the positive pole. Electrolytically, the diffusion should be as much from one pole as it is from the other, though, of course, we should look for the respective ions only in the immediate vicinity of their respective poles.

To Dr. Peterson, so far as I know, is due the credit of the measured dose incorporated in a disc of blotting paper to be inserted in his cataphoric electrode. Retaining his valuable contribution of exact dosage, it seems to me that the conducting plaster to be used with any electrode may simplify the process and bring it within the reach of many who might not care to have a special electrode. But, whatever form of electrodic apparatus we may use, the anæmic method I have above outlined is equally applicable to all. I find it especially serviceable in gouty and rheumatic joints. The wrist, elbow, ankle, and knee lend themselves most favorably to putting it into practice. In a series of cases now under treatment for various stages of subacute and chronic rheumatic conditions, the electric introduction of the remedy into the comparatively anæmic tissue is giving excellent results.*

It is generally admitted that chronic rheumatism accompanied by effusion into the joints and some thickening is peculiarly difficult to treat successfully. The alkaline treatment, the salicylates, antipyrine, and other constitutional methods do not give brilliant results. The cautery, blisters, and other local treatments, while beneficial, still leave much to desire. The very enumeration of the great number of remedies and treatments brought to bear upon these chronic rheumatic joints is the best evidence of the comparative inefficacy of any one of them. I have long maintained that the long spark of static electricity applied directly to the joint was the most effectual means yet employed of annulling the pain, dispersing the exudation, and reducing the thickening.

In cataphoresis by the anæmic method, I am led to believe, by an observation of results which I have obtained, that we have still another means of rational treatment of this rebellious affection. It is at least worthy of a general trial. Other morbid conditions in which the method may be used naturally suggest themselves, but need not here be enumerated, since this communication relates mainly to the method of application.

19 East Twenty-eighth Street, *March 1, 1891.*

A CLINICAL REPORT OF OPERATIVE SURGERY IN THE SERVICE OF DR. WILLIAM T. BULL,

AT THE NEW YORK HOSPITAL,

During October and November, 1889, and from February to June, 1890.

By WILLIAM B. COLEY, M. D.,

LATE HOUSE SURGEON.

(*Continued from page 446.*)

UNCLASSIFIED CASES.

Case I. *Pyelonephrosis; Nephrotomy; Recovery.*—The patient, a woman thirty years of age, had been well up to within two years before entering the hospital. She had a perfectly characteristic history of pyelonephrosis, beginning with a severe attack of cystitis. Six months later she began to have sharp pain in the right lumbar region, and soon after noticed a swelling that could be felt anteriorly in the right iliac region. During the attack of pain, which lasted several days, the sediment in the urine became greatly increased in quantity and more purulent in character. She subsequently had a number of similar attacks, and the same changes in the urine were always synchronous with the pain and swelling.

There had been moderate loss of flesh and strength and she was anæmic.

Examination at the time of her admission showed a well-defined tumor, soft and semi fluctuating, occupying the right side of the abdomen from just below the border of the ribs nearly to the crest of the ilium. The urine contained one eighth per cent. (weight) of albumin and considerable pus.

Operation, November 16, 1889.—Lumbar incision. A cavity containing about two drachms of pus was found, evidently in the pelvis of the kidney. The wound discharged pus and urine. A sinus remained open when she left the hospital, three months later.

---

* Dr. Lewis A. Sayre, with his usual interest in new methods, kindly permits me to record that the treatment of his wrist joint, from which he has long suffered much, by this method has in a few days reduced the swelling half an inch, caused the pain to disappear, and allowed of a considerable movement, where before there was none. Nothing else up to that time had accomplished this much.

Case II. *Tubercular Pyelonephrosis; Nephrectomy; Death.*—E. H. (for previous history see above). Patient returned to the hospital March 26, 1890, the sinus having failed to close and the discharge being still profuse and containing urine. General health greatly impaired and getting worse. Urine still contains large amount of albumin.

Physical Examination.—Same as before. A sinus at the site of the old wound four inches and a half deep. Profuse discharge.

Operation, April 3, 1890.—Ether. A five-inch incision in the line of the former one was carried down until the kidney was reached. The tissues were greatly infiltrated and all landmarks entirely obliterated. The kidney was greatly enlarged. The pelvis was dilated and containing numerous pouches of thick, creamy pus. Adhesions were so firm that great difficulty was found in enucleating the organ sufficiently to form a pedicle. In spite of the greatest care in manipulation, a rent was made in the inferior vena cava. This was closed by a long clamp left *in situ.*

The kidney was finally removed and the wound packed with iodoform gauze.

The condition of the patient was very poor at the close of the operation, but she rallied under stimulation and recovered consciousness. The pulse rose to from 140 to 160 on the following day and the temperature to 102°. The lower extremities were warm, but became purple eighteen hours after the operation. She gradually failed, and died forty hours after the operation. Exploration showed a rent in the vena cava.

Pathologist's Report.—The kidney was greatly increased in size and contained numerous cavities, varying in size from that of a hickory-nut to that of a pigeon's egg. Microscopical examination showed extensive inflammatory involvement of the kidney with typical tuberculosis. The tubercles varied in size and contained many giant cells.

Case III. *Chronic Peritonitis following Typhoid Fever simulating Appendicitis; Laparotomy; Recovery.*—W. E., aged twenty-three, single, German, was admitted to the hospital on September 5, 1889, and was treated on the medical side for typhoid fever. He was discharged cured on October 28th. After leaving the hospital, he had recurrent attacks of abdominal pain, mostly in the right iliac region, and extending into the lumbar region.

He was readmitted on January 1st, 1890, and transferred to the surgical side on March 15th. During this time he had had two or three attacks of pain in the right iliac region, accompanied by an indistinct tumefaction and tenderness on pressure. Rectal examination was negative. His general condition was fair; there was moderate constipation, with some nausea and occasional vomiting.

Operation (Exploratory Laparotomy), March 15, 1890.—Ether. A longitudinal incision was made at the right of the linea alba three inches and a half long. The cæcum seemed to be abnormally fixed in the pelvis, and the appendix could not be found. Extensive manipulation was not thought desirable, and the wound was closed. No drainage was used. The wound healed quickly, and the patient made a good recovery. In the third week after the operation he had persistent nausea and vomiting, but no abdominal pain; a slight feeling of discomfort only. He was up and about in the third week, his condition improved somewhat, and he was discharged.

Case IV. *Pistol-shot Wound of the Abdomen; Laparotomy (for Hæmorrhage); Death.*—W. T., aged fifty-four, married, a large, muscular man, was brought into the hospital, at 8 p. m., on March 22, 1890, having been shot in the abdomen (with a ·38 caliber pistol) ten minutes previously. When seen by the ambulance surgeon, he was conscious, but when he arrived at the hospital the radial pulse was hardly perceptible, and he was unconscious and suffering from profound shock, evidently due to internal hæmorrhage.

Physical Examination.—Dullness in the flanks. No tympanites. There was a bullet wound four inches below and two inches to the left of the umbilicus. Free stimulation was employed subcutaneously. The extremities were bandaged, and the patient was taken at once to the operating-room. Operator, Dr. Coley. Venous infusion (℥ xvj of warm water) quickly into the arm, and a four-inch median incision was made below the umbilicus. The abdominal cavity was filled with blood and clots. The breathing, which had been getting more and more shallow, stopped entirely almost as soon as the abdomen had been opened. Further exploration was not made, and, as there was no autopsy, the extent of visceral injuries is not known.

Case V. *Tubercular Peritonitis* (?).—W. F., aged forty-five, male. General health always good. No tubercular family history. For the past three years a slow increase in the size of the abdomen. Slight loss of flesh and strength. Bowels constipated. Urine normal. Slight pain in the abdomen, but not constant.

Physical Examination.—Abdomen moderately enlarged. A large amount of adipose tissue in the abdominal wall, and palpation unsatisfactory. The umbilical and hypogastric regions were occupied by a diffuse tumor, irregular and nodular, and but slightly movable. Rectal examination showed a mass in the pelvis, but not connected with the tumor in the abdomen.

Operation, May 13, 1890.—Exploratory incision down to the peritonæum—four-inch incision. Several small, hard, nodular masses were felt attached to the parietal peritonæum, and similar nodules apparently connected with the omentum and mesocæcum.

It was thought best not to open the peritonæum, and the wound was closed. Further operation was not advised. Primary union. Discharged.

Case VI. *Tubercular Salpingitis, with Tubercular Peritonitis; Laparotomy; Death.*—S. C., aged twenty-five, single (colored). General health good until two months ago. Pain in the hypogastric and right iliac regions for the past two months. Rapid loss of flesh and strength.

Physical Examination.—Chest, signs of consolidation at both apices; systolic murmur. Abdomen slightly tender, more so on the right side. Uterus enlarged and movable. A soft, tender tumor felt in the right broad ligament.

Operation, May 31, 1890.—Four-inch median incision between the umbilicus and pubes. Omentum slightly adherent. Parietal and visceral peritonæum studded with small miliary tubercles. Both tubes and ovaries considerably enlarged, adherent to the adjoining parts by firm adhesions, and forming an almost unrecognizable mass.

In separating the adhesions, a small rent was made in the small intestine. This was closed with fine silk. Considerable hæmorrhage followed the separation of the adhesions. The cavity was washed out with boiled water, and a glass tube and iodoform tampon were left in the wound. Her condition remained fairly good until the third day; she then began to have a thin discharge from the wound, containing urine. Signs of peritonitis quickly developed, and death followed on the fifth day after the operation.

The autopsy showed both the right and left pleuræ everywhere adherent (adhesions old); both lungs contained cheesy masses and small cavities. Tubercles were found in the spleen and peritonæum. The greater omentum was bound down in the pelvis by recent adhesions. A small rent was found in the bladder wall, and a small amount of sero-purulent fluid in the pelvic cavity.

Pathologist's Report.—The ovaries could not be recognized in the mass removed. The Falloppian tubes were filled with giant cells, and there were areas of necrobiosis, but no trace of mucous membrane of tubes was present.

Case VII. *Acute Oophoritis; Local Peritonitis, threatening to become General; Laparotomy; Recovery.*—M. B., twenty-six years of age, married. The patient had had one child six years before; labor was prolonged and instrumental. She had had pain in the back, menorrhagia, and general weakness ever since. Four weeks previous to the operation these symptoms became exaggerated, and pain and marked tenderness became localized in the right ovarian region. Examination showed a soft, tender mass of the size of a goose-egg in the right broad ligament. She had well-marked local peritonitis with several severe exacerbations, the temperature reaching 103° and the pulse 120, accompanied by some distention and general abdominal pain. At one time general peritonitis was thought inevitable, and an operation was advised, but the patient would not consent. Constant application of the ice-coil caused the dangerous symptoms to subside, but another exacerbation followed a week later, and she consented to an operation.

Laparotomy, May 31, 1890.—The left tube and ovary were found normal and were not disturbed. The right tube showed well-marked evidence of catarrhal inflammation, but contained no pus; both tube and ovary were enlarged and they were removed. The adhesions were few and recent. No irrigation and no drainage employed. Recovery was rapid and uninterrupted, and she was up and about at the end of three weeks and a half.

The pathologist's report showed the ovary slightly enlarged and containing numerous small cysts. Microscopical examination showed the ovary infiltrated with round cells. Numerous corpora lutea were seen in various stages of degeneration.

Case VIII. *Intestinal Obstruction of Six Days' Duration; Bands; Suppurative Peritonitis; Death.*—D. H., aged eighteen, male. Previous health good. He had a congenital hernia, which six days ago became considerably larger after jumping. He reduced it quickly, but almost immediately was seized with severe abdominal pain, which was soon followed by nausea and vomiting. These symptoms continued and there was absolute constipation. Gradually grew weaker. Admitted to hospital on November 24th, the sixth day of the disease.

Physical Examination.—Abdomen tense and very tender. Considerable tympanites. Inguinal canal free and no tumor felt in the abdomen. Pulse, 120°; temperature, 102°. Vomited frequently, and the vomitus was fæcal in character. General condition very poor.

Operation, November 24, 1889 (shortly after admission).—Chloroform. Median incision four inches and a half. Immediately above the inguinal canal was found a band either end of which was attached to parietal peritonæum, constricting a loop of small intestine so greatly as to obliterate its lumen. The band was removed, but evidence of well-marked peritonitis was already present. Warm-water irrigation. Patient rallied somewhat from the operation under free stimulation, but signs of peritonitis continued to increase, and on the third day he died.

The autopsy showed recent adhesions and a moderate amount of lymph in abdominal cavity. The intestines were greatly distended and matted together. There was a lacerated wound a quarter of an inch in diameter in the ileum.

Case IX. *Intestinal Obstruction of Five Days' Duration; Diverticulum; Suppurative Peritonitis; Laparotomy; Death.*—C. D., thirty years old, male. Previous health good. Admitted November 16, 1889, with the following history: Five days ago he had sudden severe pain in the abdomen coming on soon after a hearty meal of cabbage. A little later nausea and vomiting; symptoms increased in severity and vomiting became fæcal in character. Absolute constipation.

Physical Examination.—Abdomen tympanitic. Resonance less marked on the right side. General condition very poor; marked prostration. Pulse 140 and very feeble; temperature 102·5°. Tongue moist, face pale, and intellect clear. Operation soon after admission. Chloroform. Median incision below the umbilicus. Considerable quantity of sero-purulent fluid in the abdominal cavity. Intestines congested and distended. Near the brim of the pelvis on the right side was found a *diverticulum* of the ileum, about three inches long, closely resembling an appendix. Its distal end was adherent to the parietal peritonæum, and, thus acting as a band, it had constricted a loop of small intestine, producing complete obstruction. In manipulation, the base of the diverticulum was torn off, disclosing an abscess containing about a pint of foul pus. Abdominal cavity washed out with warm water. Glass drain. Time of operation, one hour. The patient did not recover from the shock of the operation, and died two hours later.

Case X. *Acute Intestinal Obstruction following Fracture of the Twelfth Dorsal Vertebra; Paralysis of Intestine; Laparotomy; Death.*—D. F., aged fifty, male, Ireland. Previous health good. Brought to hospital March 4, 1890, in the ambulance. Had just fallen one story, striking on the right thigh and back. Patient was conscious and complained of severe pain in the thigh and in the lumbar region.

Physical examination showed an oblique fracture of the right thigh at the junction of the middle and upper thirds, with one inch shortening. Slight tenderness in the lumbar region of the spine, but no deformity and no paralysis. Patient was given ether, and the fracture of the thigh was reduced and put up in a Buck's extension apparatus. He vomited for some time after the ether. Vomiting continued at intervals during the greater part of the next day, and was accompanied by pain and discomfort in the abdomen.

Third day.—Vomiting continues; unable to retain anything in the stomach; abdomen slightly distended; no tenderness; bowels constipated.

Fourth day.—Condition about the same; vomiting more frequent and the vomited matter dark-brown, but not fæcal; an ox-gall enema was very slightly effectual.

Fifth day.—Seems considerably better; able to retain milk and lime-water; bowels moved once after a large enema of ox-gall.

Sixth day.—Evidently growing weaker; the abdomen, slightly distended before, is now markedly tympanitic; vomited at 11 a. m. a large quantity of dark fluid, distinctly fæcal.

Operation, 1 P. M.—Chloroform; a seven-inch median incision; the whole intestine, except the rectum and sigmoid flexure, greatly distended, making an examination impossible until three punctures had been made in the small intestine with a medium-sized trocar, letting off a large quantity of gas; the punctures were closed with Lembert sutures of silk. Careful examination failed to reveal the cause of the obstruction. The small and large intestine seemed equally distended. The patient's condition was very poor, and the wound was closed. Time of operation, an hour and a half. The patient reacted from the anæsthetic, but gradually grew weaker, and died at 10.35 p. m.

The autopsy disclosed a fracture of the spine, or rather a loosening of the joint between the last dorsal and first lumbar vertebræ, with a slight chipping off of both bones anteriorly, but giving rise to no displacement.

Case XI. *Old Suppurative Salpingitis, with Acute Septic Peritonitis; Laparotomy; Recovery.*—C. B., twenty-one, Ireland, domestic. General health poor. Signs of incipient phthisis in both lungs. Menstrual history irregular for the past year. For the last three months occasional sharp, shooting pains in the lower portion of the abdomen, accompanied by a white discharge from the cervix. Pain and discharge have continued. Admitted February 7, 1890 (medical side). Transferred from the medical side March 6, 1890.

Physical examination at time of entrance: Temperature, 99·6°; pulse, 90; respiration, 26. Vagina: a tender swelling, of the size of a small orange, in the right fornix, non-fluctuating.

Treatment.—An ice-coil to the abdomen. The symptoms quickly became less marked, and the patient was soon able to sit up.

February 23d.—Pain and tenderness recurred. Treatment the same as before, with relief of the symptoms.

March 6th.—Up and about the ward, feeling as well as usual, until 4 P. M., when she was taken with sudden and severe abdominal pain, at first localized but soon becoming general. The temperature rose to 103·8°, and the pulse to 120. At 6 P. M., nausea, but no vomiting. Ice-coil applied to the abdomen. Thirteen minims of Magendie's solution of morphine given subcutaneously.

9 P. M.—Condition about the same. Abdomen markedly tender and slightly tympanitic. Transferred to the surgical side.

Operation, 10.30 P. M.—Dr. Bull. Chloroform. A four-inch median incision below the umbilicus; a pint and a half of turbid sero-purulent fluid in the cavity. On the right side, deep down in the pelvis, was a mass of the size of two fists, to which the intestines were bound by old and firm adhesions, which were separated with great difficulty. Scattered over two feet and a half of small intestine were six patches of old, well-organized, fibrinous exudation, varying in diameter from three quarters to an inch and a half, with edges blackened and elevated, the peritoneal coat having been stripped off, leaving only the red muscular layer behind. These patches were rubbed with iodoform powder. The mass itself, in the pelvis, was found to consist of an enlarged suppurating Falloppian tube and right ovary. These were removed and the abdominal cavity was washed out with warm water. Glass and iodoform-gauze drains. Recovery uninterrupted, save by an attack of bronchitis on the ninth day. The tube was left in six days, and then a smaller rubber tube introduced and the sinus washed out with weak bichloride solution. The discharge continued profuse for three weeks, and then gradually decreased. Discharged cured June 1, 1890.

Pathologist's Report.—Microscopical examination showed extensive infiltration of small round cells in both the ovary and the Falloppian tube. The walls of the tube were very much thickened.

Case XII. *Acute General Peritonitis following a Perforating Ulcer of the Cæcum; Laparotomy; Recovery.*—L. H., aged twenty-one, female, single, German, always well until three days previous to admission, when she was taken with severe sudden pain in the abdomen following a hearty meal of potato salad. The pain increased in severity and soon became localized in the right iliac region. Nausea and vomiting quickly followed, and have since continued with increasing frequency. Admitted on the third day of the disease.

Physical Examination.—Abdomen: a sense of resistance in the right iliac region with indistinct tumefaction; marked tenderness and dullness on percussion in the same region; temperature, 100·2°; pulse, 102.

Fourth Day, A. M.—Abdominal tenderness now general. Pulse rapid and small, temperature 103°, vomiting frequent and the vomited matter greenish; moderate tympanites. Transferred to the surgical side on the afternoon of the fourth day and laparotomy at once performed. Anæsthetic, ether; a five-inch longitudinal incision just beyond the outer border of the right rectus muscle. The deeper muscular layers were of a grayish color and infiltrated. The parietal peritonæum and omentum were adherent. The adhesions were carefully separated, exposing the cæcum, which, for a distance of two inches and a half above the appendix, was found to be dark-colored and gangrenous over an area an inch in diameter and in places perforated. The appendix itself was thickened and inflamed, but contained no perforation. An abscess containing several ounces of foul-smelling pus was found just behind the appendix, and two small fæcal concretions were found free in the abdominal cavity.

The diseased portion of the cæcum, an inch and a quarter by three quarters of an inch, was removed with scissors, and the wound closed with Lembert sutures of fine silk. The appendix was tied off at the base and removed. The intestines were covered with fibrinous exudation, and the abdominal cavity contained a moderate quantity of sero-purulent fluid. A large mass of adherent and inflamed omentum was tied off and removed. The abdomen was thoroughly irrigated with warm water. Iodoform-gauze and glass drains reaching to the bottom of the pelvis were used, and an ice-coil was applied as soon as the patient reached the ward. No pain and no tenderness followed the operation. Temperature below 100° most of the time. The patient made a rapid recovery.

Case XIII. *Acute Septic Peritonitis dependent on Suppurating Adenoma of the Ovary; Abdominal Section; Death.*—The patient was a woman, twenty-six years old, married, and had had one child a year before. Her general health had been good until four months previous to entering the hospital. Since that time she had had two attacks of severe localized pain in the right iliac region. Six days before she was brought to the hospital a similar but severer attack occurred. It was ushered in by nausea and vomiting, abdominal pain, and tenderness, which, though localized at first, rapidly became general. Constipation was absolute from the beginning of the attack. She was brought to the hospital in the ambulance on March 16, 1890. She was then in a condition almost bordering on collapse. Temperature, 101·4°; pulse, 140; respiration, 44. The radial pulse was scarcely perceptible. Tympanites was marked; there was general abdominal tenderness. Abdominal section was made two hours later as a last resort, and with only very slight hope of success. The intestines were found greatly distended and markedly congested. A moderate quantity of turbid serum was found in the abdominal cavity.

Deep down in the pelvis on the right side, and firmly attached to the adjoining parts by old adhesions, was a mass of the size of a cocoanut consisting of broken-down cheesy matter. This evidently had its origin in the right ovary, but no trace of the right ovary could be found. The appendix vermiformis was seen and was apparently healthy. The mass was removed, and the abdomen irrigated and drained. The patient never recovered from the shock, and died eighteen hours later. Microscopic examination showed the tumor to be an adenoma of the ovary which had undergone extensive degeneration.

Operations on the Liver.—Case XIV. *Calculus of Cystic Duct; Cholecystotomy; Death.*—L. B., aged thirty-seven, male. He was well developed and well nourished, and his general health had been good until the past two or three years, during which time he had had several severe attacks of hepatic colic. He was operated upon on May 27, 1889, at the New York Hospital. The gall-bladder was opened, and its walls were found considerably thickened, but no gall-stone could be found. He made a good recovery, but a small sinus remained, discharging a thin, yellow, muco-purulent fluid. He had no recurrence of symptoms until four days previous to his admission, when he had a very severe attack of biliary colic. Admitted on October 22, 1890.

Operation, October 26, 1890.—Ether. An incision three inches and a half in length was made in the line of the old cicatrix. The adhesions between the parietal peritonæum and the underlying viscera were very firm. The cystic duct was found enlarged and its walls were three eighths of an inch thick. On cutting through it there was found a calculus about three quarters of an inch in diameter. This was removed and an iodoform drain placed in the wound, with a small glass drain in addition. He vomited soon after the operation, but did fairly well for three days, and then symptoms of peritonitis developed and he died on the seventh day.

Autopsy.—No peritonitis. The omentum was adherent to the peritonæum above the incision. The common, cystic, and hepatic ducts were normal and pervious. Death was probably the result of intestinal obstruction caused by adhesions following the operation.

Case XV. *Biliary Calculi; Cholecystotomy.*—J. W., aged forty-eight, male. About four months ago he began to have severe attacks of pain in the hepatic region, paroxysmal, and occurring at frequent intervals. There was slight jaundice at times and there was an indefinite tumefaction in the region of the gall-bladder, with slight tenderness. His general health has been considerably impaired.

Admitted June 23, 1890. General condition poor. No distinct tumor, but a sense of fullness in the right hypochondriac region. No icterus present.

Operation, June 25, 1890.—Ether. An incision four inches in length was made in the right mamillary line, beginning just below the free border of the ribs. The gall-bladder was slightly enlarged and elongated. No calculus could be felt before opening it, but, on cutting through the slightly thickened wall, fifteen small calculi were pressed out. The duct appeared to be empty. The wall of the gall-bladder was then brought up and stitched to the abdominal wound, thus making a biliary fistula, and a small rubber tube was left in the wound.

Subsequent Progress.—The temperature rose to 102·4°, and the pulse was rapid and feeble soon after the operation. Severe sharp pain, similar in character to the old pain, began the next day, accompanied by vomiting of dark biliary matter. The patient rapidly grew worse, and died forty-eight hours after the operation.

Case XVI. *Large Abscess of the Left Lobe of the Liver; Operation; Death.*—F. F., male, forty-eight years of age, born in England. Patient had been living in the United States (the South) the past ten years. He was admitted to the hospital October 31, 1889. About two months previous to admission he began to have occasional attacks of syncope and vomiting, occurring three or four times a week. These continued for a month, when slight jaundice appeared, accompanied by deep-seated epigastric pain, which was aggravated by exertion or deep inspiration. Headache and slight fever at night, accompanied by profuse sweating, quickly followed, and about the same time he noticed a small, tender swelling in the epigastrium. The swelling slowly increased in size, and his general health became markedly impaired; he lost twenty-five pounds in two months.

The bowels were constipated, and occasionally a small amount of blood was noticed in the stools.

The patient was kept under careful observation for two weeks, but no positive diagnosis could be reached. The most probable diagnosis was thought to be either acute pancreatitis or abscess of the liver.

Physical examination showed a tumor occupying the epigastric and a portion of the left hypochondriac regions, bounded on the left by the mamillary line and extending from the sixth costal cartilage above to a point three inches above the umbilicus below. The tumor was apparently deep-seated and not attached to the parietal peritonæum.

The tumor was markedly tender and pulsated distinctly. The heart was displaced upward, so that the apex beat was felt in the fourth intercostal space. Dilatation of the stomach caused no change in the area of the tumor dullness, and stomach resonances extended beyond the axillary line. The stools were of a yellowish color, and on one occasion contained blood. The temperature ranged slightly above normal (99° to 101°).

Exploratory laparotomy was performed on November 13, 1890. Anæsthetic, ether. An incision three inches and a half long was made parallel to and two inches and a half to the left of the median line, beginning at the free border of the ribs. On going through the peritonæum, the left lobe of the liver was seen, greatly enlarged, with the capsule tense and glistening. The finger was passed beneath, but no other tumor could be felt. The upper portion of the wound was then closed and the lower part left open and packed with iodoform gauze, in order to promote adhesions between the liver and the parietal peritonæum.

November 14th.—Patient was very restless, notwithstanding half a grain of morphine had been given during the night. He vomited several times during the first twenty-four hours, and the vomitus consisted of a dark reddish-brown fluid, which microscopic examination showed to contain considerable blood.

15th, A. M.—Temperature, 101·2°; respiration, 24; pulse, 140 and very weak. At 10 A. M. the abscess was opened with a bistoury, inward, and about a quart of yellowish pus mixed with blood escaped. The patient continued to grow weaker, and at 5.45 P. M. died.

Perityphlitis.—Case XVII. *Perityphlitis, Suppurative; Laparotomy; Death.*—P. M., aged twenty-five, single, male. Previous general health always good, with the exception that during the past few years he had had a number of attacks of severe pain in the right iliac region.

The present illness began ten days previous to his admission, with pain in the right iliac region, accompanied by constipation and slight fever. The pain increased, and subsequently a slight swelling appeared in the same region.

Admitted November 28, 1889. Temperature, 99°; respiration, 28; pulse, 120. The abdomen was slightly tympanitic, and low down on the right side was an area of induration and indistinct tumefaction, markedly tender on pressure and slightly dull.

Operation, November 28, 1889.—Ether. An incision three inches long was made along the outer border of the right rectus muscle and parallel with the median line. The deeper muscular layers were grayish and infiltrated. The omentum, cæcum, and lower portion of the ileum were bound down in the iliac fossa by firm adhesions. In the region of the cæcum an abscess containing about one or two ounces of pus was found, but its exact relation to adjoining tissues could not be made out. The appendix could not be found. After thorough irrigation with warm water, an iodoform tampon was placed in the wound extending to the abscess cavity, and the external wound was then partially closed. The pulse was very rapid and weak at the close of the operation. The temperature rose gradually, and the following day, about twenty-four hours after the operation, he died.

No autopsy.

Case XVIII. *Perityphlitis; Operation; Recovery.*—H. B., aged twenty-three, German, male, always well. Present illness began fourteen days previous to admission, with pain in the abdomen following a hearty meal. The pain was chiefly confined to the right lower abdomen. It continued dull and constant, but occasionally severe, and at the end of a week he noticed a swelling in the same locality. A few days later nausea and vomiting began. All the symptoms have steadily increased in severity. There is constipation, but not absolute.

Admitted October 1, 1890. Temperature, 102·8°; respiration, 32; pulse, 116. A small, tender tumor was seen in the right iliac fossa; no general abdominal tenderness.

Operation.—Soon after admission, October 1, 1889, an incision three inches long was made, extending upward from the middle of Poupart's ligament. An abscess cavity containing two or three ounces of foul-smelling pus was opened, and beyond, forming the posterior wall of the abscess, were seen the cæcum and omentum matted together. A sponge on a long clamp was passed into the pelvic cavity, but no pus was found. Thorough warm-water irrigation. A large rubber drain left in the wound.

Subsequent Progress.—The discharge was very profuse for the first week and then began to show traces of fæcal matter. This continued until October 19th, and then the discharge slowly diminished. He left the hospital on November 29th with a small sinus, which did not heal completely until six months later.

Case XIX.—M. K., aged twelve, female. Operation for fæcal fistula following an operation for perityphlitis performed two months before. No effect.

Case XX.—M. B., aged twenty-eight, female. Persistent sinus following laparotomy, done November 22, 1889. Sinus enlarged and curetted July 1, 1890. No effect.

Case XXI. — *Pelvic Abscess following Childbirth* three months previous to admission Incision; drainage; delayed recovery.

Case XXII.—*Large Pelvic Abscess following Confinement* two months before.

Operation, November 16, 1889. — Three-inch incision and about two quarts of pus evacuated. Discharged with open sinus, but improved greatly within three months.

Case XXIII. *Pelvic Abscess; Recurrent Localized Peritonitis; Laparotomy; Recovery.*—M. B., aged thirty-seven, married; has had two children, the last eight years ago. Admitted October 29, 1889. She was then suffering from the fourth attack of pelvic peritonitis, the first having occurred about a year before. The temperature was 102·6°, and examination revealed a small tumor in the left iliac region, very tender on pressure and fixed in the pelvis.

Treatment.—Rest in bed and poultices to the abdomen.

Operation, November 7, 1889.—Laparotomy; ether. An incision three inches and a half in length was made in the median line of the abdomen below the umbilicus. A large abscess was found in the pelvis on the left side attached to the rectum, sigmoid flexure, and uterus by firm adhesions. The abscess wall was ruptured. The pus was sponged out, and free irrigation and both abdominal and vaginal drainage were employed. The patient made a good recovery.

(*To be continued.*)

The Cantharidin Treatment.—Experiments are now made here with the injections of cantharidin in cases of laryngeal tuberculosis and other tuberculous affections, at the General Hospital, as well as at some private institutions, and, as I am informed, the results obtained till now seem to be favorable. On the other side a series of other irritant substances obtained, including even jequirity, have been also experimented with for the treatment of tuberculosis since November last, but the results obtained are not yet published.—Vienna correspondence of the *Lancet.*

THE POSTURAL OR "LIFTING" COUCH,

FOR RELIEVING PELVIC AFFECTIONS—MECHANICAL, SURGICAL, GYNÆCOLOGICAL, AND MEDICAL.

By GEORGE H. TAYLOR, M. D.

The apparatus whose description follows is adapted to raise and to sustain the contents of the pelvis, however depressed and confined by morbid adhesions; to re-establish and to maintain an adequate outflow from the pelvis of the venous circulation; and to increase such outflow to the extent required by pathological indications. The above-noted effects of the use of the apparatus will therefore indicate the fundamental nature and requirements of malpositions and of errors of nutrition to which the varied contents of the pelvis are notably subject, including those which too often prove intractable to medical skill.

The mechanism for attaining these ends is very simple, and requires only moderate tact for its successful use. It is not a medium for presenting new ideas and principles, but for the successful application of those well established and undisputed in the realm of mechanico-physiology which have suffered neglect, and which are vitally important in their therapeutic application in different branches of the art of medicine.

The apparatus includes a light frame, with a well-upholstered top, convenient for supporting the body, lying. The top is in four sections. Two are hinged to the ends of the frame, and admit of being lowered and raised like leaves of a table, as may be required. One of these is a head-rest; the other supports the legs. Next to the head-rest is the *functioning* section. This extends to the hips, and is free to move upward; it is hinged under shoulders, so it may be pushed up like a door. A lever at the side of the frame extends by means of connections to the free end of this section, so adjusted that, when depressed, the section swings upward. The pressure of an operator's foot causes the section with the part of the body resting upon it to assume any angle with the horizontal that may be desired. The remaining portion of the top of the couch is permanently fixed to the frame.

Two principal uses are made of this apparatus, both superinducing positive and incontestable remedial effects. One passively restores any displaced organ or part of organ of the pelvis and adjacent parts, and removes obstacles in the local circulation, both in the vessels and intervascular parts; the other contributes actively and permanently to maintain these advantages—that is, restores the health of the pelvic region. The *passive* method, and the therapeutic principles it represents, will receive first attention.

The patient lies, back down, head resting on its supporting piece, *both hands bearing on the top* (not the back) *of the head, with fingers firmly interlocked;* the feet drawn up near the hips and firmly planted on the couch. Before proceeding further, it is indispensable that the physiological consequences of the position described be clearly understood.

The mechanism of respiration now operates without the least restraint, changing its twenty to thirty cubic inches of air fifteen to twenty times every minute, as before; but the anatomical parts engaging in the act are radically different.

The raised arms cause tension of all the muscles attached to the humerus; this tension draws apart and increases the distance between the side walls of the chest; it also renders them immobile. The exterior of the chest can no longer participate in the respiratory act. The rhythmic changes of chest space now devolve on the diaphragm, with the co-operation of the abdomen. The fluctuations of chest-space involved by respiration now reach the exterior by way of the abdominal and the pelvic contents, and in no other way; and the same number of cubic inches of space is represented without loss at the inferior contour of the body that was previously at the chest exterior. Respiratory rhythm is therefore continued by another set of muscles.

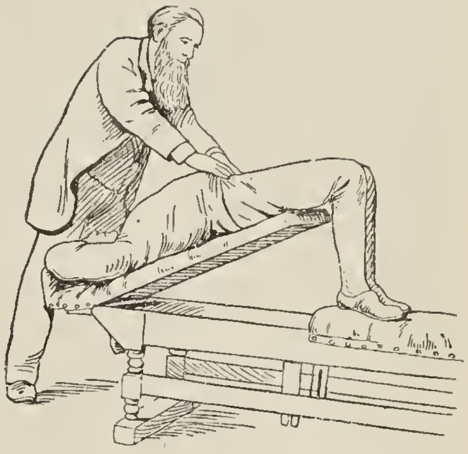
One is readily convinced of the completeness of transfer described. A moderate pressure of the hand at the pubic region of the abdomen causes the respiratory motions to be seen and felt at that point—slightly increased by reflex incitation, while the exterior chest-walls are motionless.

The next point of interest is the altered shape of the abdomen. Lateral distention of the chest increases the circumference of the upper or diaphragmatic portion of the abdomen two or three inches, and its space proportionally. This change of space necessitates a *redistribution* of the contents of the whole cavity, including the pelvic. These contents inevitably pass into the space provided, and retire from that previously occupied. The exterior shape changes to correspond to the redistribution of contents. The contents of the whole cavity of the trunk, considered as a unit, are lodged higher up.

The way is now clear to see that the respiratory rhythm is indubitably *pump-like*, and that its effects accord with its action. The mass of contents of the common spaces, abdominal and pelvic, engage in rhythmic oscillations and alternations of pressure. One now sees what is natural and spontaneous in all healthy vertebrate creatures—that motor and pressure oscillations are not confined to the chest, but normally extend through the whole cavity of the trunk, and are physiologically required for the health of the contents of each division of the cavity. One effect of motor rhythm is its indisputable *sustaining* power. The respiratory muscles, now engaged, unite their power to elevate the diaphragm, thereby producing a tendency to a vacuum below it. The inevitable consequence is the urging upward of the whole visceral mass by atmospheric pressure. This effect is more readily seen when slightly increased—as by going up stairs with both hands pressing the crown of the head. The location and the interrelations of the pelvic contents, therefore, practically depend on the overlying mass, are subject in health to the motor changes of this mass, and are controllable through it.

Another indispensable effect of respiratory rhythm is its agency in returning the venous circulation. The organs in the pelvis, being devoid of muscles adapted to this end, are as helpless as the contents of the skull in the absence of normal rhythm, and inevitably suffer hyperæmia and its consequences, the proofs of which appear further on.

Having thus presented necessary physiological data, we may proceed with the apparatus. The operator, standing near the patient's head, presses the lever with his foot. The force is transmitted to the movable section on which the trunk lies. By the arrangement of levers and connecting rods this portion is thrown into an *inclined* position, the degree of inclination being always dictated by the patient. The body is next allowed to descend to the commencing position, and this act of raising and lowering the central part of the body may be repeated, suspending it at the elevated stage.



Respiration and gravitation now unite their forces, and the weight of visceral organs and the power of the chest muscles are combined and extended to the contents of the pelvis, urging the latter *from* the pelvic cavity toward the space provided at the other end of the abdomen.

It being realized that the union of forces urging upward the contents of the pelvic cavity is actual and positive, and that the *direction* of such action is desirable, it may now be shown that its *degree* may easily be increased to any extent required. The traction affecting local organs of the pelvis and vicinity impelling them upward may be made equal to any emergency. The additional force required to overcome great resistance is secured by adding pressure from the hand of the operator. If during expiration the abdominal mass be urged by the hand of the operator *from* the base of the abdomen, it is evident that the force thus applied co-operates with both the muscular power of respiration and the gravitation of the mass. The added force may be tentatively applied, and adapted to the therapeutic requirements, whether these extend to one or one hundred pounds, or more if needful to overcome whatever resistance the pathological condition may present. The process is entirely passive and painless, may be varied to suit conditions and circumstances, and is incapable of causing disagreeable feelings or consequences.

The remedial utility of this class of processes may be thus summarized: It causes the physiological gliding of the peritoneal surfaces of the viscera to which they are adapted and which is indispensable for their health. It removes the overlying digestive viscera, thus providing the space requisite for replacement upward of the pelvic contents. This effect is an absolutely necessary preliminary to ascent and rectification of position and interrelation of parts of the pelvic organs, and the want of it insures practical failure of instrumental methods and of manual procedures, however deftly supplied. The same process causes progressive or rapid *divulsion* of morbid attachments, and inaugurates the natural gliding of peritoneal surfaces which obviates recurrence of fixation.

Even more significant, if possible, are the remedial advantages superinduced in the nutrition of the pelvic organs by the agency of the same and similar processes. Fluid constituents of a part are naturally more sensitive and obedient to physical impulses than masses are. The return circulation from the contents of the inferior portion of the cavity of the trunk, and especially from the pelvis, physiologically depends on rhythm. The accessories of rhythm supplied by art have, therefore, inestimable remedial value. The physiological *drainage* (so to speak) of the pelvic contents is practically effected by this agency, and a defect or absence of rhythmic impulse plunges the pelvic organs into difficulties which are well-nigh the opprobrium of medicine. These organs are, in this case, in the condition resembling that of a submerged water wheel. The return of function depends on removing the back water. Accumulated local residuals of pelvic organs are removed through abundant venous outflow, for this is indispensable to local absorption, and therefore to healthy nutrition.

Warned by practical failures of promising theoretic remedial devices, the medical reader naturally (and commendably) desires demónstrative evidence of the correctness of preceding statements. This he may have. Apparatus is not indispensable for the most searching and conclusive investigation. He should *see*, *feel*, and positively *know*, the validity of the evidences afforded, and be able to eliminate all possibility of misunderstanding or deception. *Strangulated hernia* fulfills the test requirements. Visceral displacement is unequivocal, morbid fixation is extreme, pent-up fluids are rapidly degenerating. The reader may accompany me to the bedside of an actual patient, and, noting procedures and results, will *himself* secure as good, in any similar case, however grave. The following is one of repeated instances:

The present instance is that of a laborer about fifty years old, belonging to the charity class. The physician, after prolonged, fruitless, and, I may add, injurious efforts to reduce the strangulated protrusion by taxis, called in the operating surgeon, who was prepared to seek relief by use of the knife. I was known by the latter to be near at hand and was called in, probably not from the most commendable motives, as it was conceded to be a case of desperation, and would afford an extreme test of the value of my methods in this class of cases. I found the patient in extreme suffering; he was constantly retching and had been vomiting for several hours; had a strained and almost ghastly appearance, and was surrounded by weeping wife and children. The protrusion appeared to be of the inguinal variety at the right side, as large as one's fist, tense, shining, bluish. The patient was required to clasp his hands on the crown of his head and to *keep* them in this position. Next, the wife's ironing board was slid lengthwise under his back, reaching his shoulders. His hips were raised ten or twelve inches by a prop under the board. Slight pressure at the pubic region indicated that the rhythm of respiration now included the lower abdomen. This motion was gently increased in extent by the assistance of pressure during expiration. This part of the abdomen gradually flattened. Taking advantage of this fact, the compression of my hands, united with stroking toward the diaphragm, worked something of a local concavity. This facilitated a more vigorous engagement of my hands with the abdominal mass, enabling me to *push* in co-operation with the muscular strife thus superinduced. The motor *push*, as relates to the diaphragmatic direction, includes the whole mass, and is a *pull* as relates to the inferior boundary of the cavity. It was directly seen that decided traction was made on the interior portion of the entrapped loop of intestine and omentum. The tension was made certain to touch by placing the finger properly at the constriction. Retching now ceased, and calmness replaced the agonized expression. My medical associates pointed to the changed appearance of the tumor—whose glossy, tense surface had become dull, and covered with minute lines or wrinkles. The fluid contents of the sac were making their way through the constricted neck. I had charge of the case about half an hour, and gave proper directions for accelerating the returning process after its advance to a suitable stage, which, however, were not followed. The surgeon called at my room the next morning to say that the reduction was completed in the night, that no other attention had been bestowed, but to see that the prescribed positions were maintained (which gave not the least fatigue), and that the patient was well. Much less time would probably have been sufficient if the process had been properly assisted at the pillars of the canal. No truss or other support is required for after-treatment in these cases, whether acute or chronic.

A proper understanding by physicians of the mechanico-physiological principles connected with pelvic affections (including in this term *all* the anatomical contents of the cavity) is so indispensable that I hope to be pardoned if led to make superfluous explanations. Pathological manifestations in and near the pelvis admit of being treated as if composed chiefly of fluids, as indeed they are. Solids offer resistance due to dimensions—a consideration which may be neglected in the case of fluids. These yield to the slightest impulse, because the infinitesimal parts may be impelled, though an entire mass could not be. The mass is incorrigible, but its ultimate molecules obey in a continuous outflow. In these and similar cases it is only necessary to superinduce a *difference of pressure* in the two cavities connected by the hernial neck. *The fluid contents inevitably pass in the direction of least resistance.* The conditions available for securing difference of pressure are clearly these: Exterior to the neck are fifteen pounds per square inch of atmospheric pressure on the sac; interior, the pressure may be diminished by the force represented by the diaphragm acting as a broad piston by means of its own and associated muscles, assisted by gravitation of the abdominal viscera, now practically reversed, re-enforced by compression from the hand, the whole of which, acting in the same direction, takes effect at the point of confinement. However pinched or vitally deteriorated, the tissues are still wet at the constriction, and the independent molecules yield in countless minutest streams throughout its sectional area, and speedily transfer the pent-up fluids to the abdominal interior vessels.

The same mechanico-physiological principles have equal application to the whole inferior end-region of the trunk. These principles are independent of considerations of sex, anatomical structure, form, substance, multiplicity, and degree of nervous irritability of the special organs to which they may be applied.

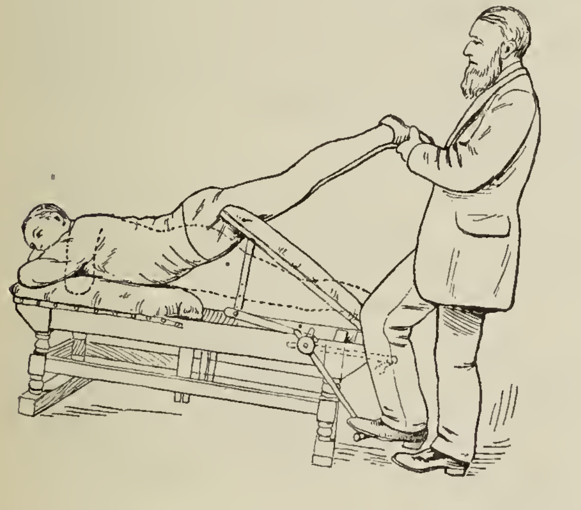
The provisions incorporated in the organic mechanism for securing a continuous and abundant outflow from the pelvic organs are ample to the point of superfluity and equal to the most trying emergencies. We have called this function physiological *drainage*, the better to suggest the ill consequences certain to arise from its inadequacy. This consists of qualitative degeneration of the retained superfluous local ingredients. The plain therapeutic indication, whatever be the morbid stage, is to submit *all* localized ingredients to the organic chemistry, through the agency of the circulation.

In the light of the above statements of principles, the stumbling-block of pelvic therapeutics becomes apparent. It is the assumption that mechanico-physiological functions which inhere in the vital organism may be neglected, even ignored, in favor of theoretical substitutes. More plainly, efforts are made to lodge and maintain the uterus and its appendages in locations already pre-empted, so to speak, by digestive organs, innocently regardless of the necessity of first removing the overlying mass. It is further assumed that dislocations and flexures of parts of the pelvic contents are amenable to correction, while stray masses of omentum and loops of the digestive tube continue to crowd aside the accused, but thoroughly innocent, pelvic organs.

Even more unjustifiable and injurious are the assumptions respecting the fluid contents of the pelvic organs. Therapeutic ingenuity is exercised without limit in devising impracticable and evanescent ways of disposing of offending local residual fluids, while the natural venous outlets remain unemployed, and when, as shown, only the feeblest mechanico-physiological preponderance is sufficient for the thorough drainage of the whole pelvic region.

The *second* of the two principal uses of the postural and "lifting" couch is adapted to secure *permanency* for the effects above described. Permanency of therapeutic effects is acquired by *incorporating* such effects, so that they become the standard and continuous physiological condition. The mode of so directing the ordinary physiological processes as to achieve most notable therapeutic results is typified by the active and *semi-active* process for which the apparatus is adapted.

In this process the patient assumes a position on the couch exactly the reverse of that before described; his feet are near the standing place of the operator, his face looking down, and he rests upon his elbows, which must be perpendicular to his shoulders and at such a point as will bring the middle portion of his thighs to rest on the well-pillowed end of the hinged part of the apparatus. Care is required to maintain unmoved the points of support at the elbows and the thighs, for the mechanical effect of the process depends on this. The accompanying cut is inaccurate, and suggests rather than represents the position required.



The operator, with one foot upon the lever, grasps the limbs of the patient in the vicinity of the ankles; he then gently presses with his foot and simultaneously draws the body rearward to correspond with the same motion communicated from the hinged part of the couch. The limbs of the patient, if a woman, are closely wrapped in skirts and a shawl, and the angle of elevation shown in the cut is unnecessary. The shoulders and hips may attain the same level, or the latter may become transiently a little higher.

The following mechanical consequences are to be noted. The abdomen, unsupported, assumes the form and functions of a pouch, into which the viscera descend by their weight. The pelvic viscera, being continuous and in juxtaposition with the abdominal, necessarily retreat in the same direction, aided by atmospheric pressure. So far the process is passive. The rearward motion of the trunk, while the elbows are fixed, stretches the arms upward as far as possible, parallel with the trunk. This act produces extreme muscular tension and renders immovable the side-walls of the chest, and expands to the extreme degree the diaphragmatic end of the cavity. This distention produces no void space, for the contents of the whole cavity move toward and fill it, causing corresponding shrinkage at the lower end. The pelvic contents necessarily recede as far as their normal connection with the pelvic walls will allow; morbid adhesions, should they exist, are, however, *first* subjected to the whole strain.

As in the position previously shown, respiration is not restricted, but, on the contrary, its scope is increased, since gravitation is changed from an impediment to a direct assistance. At each rhythmic act the contents are subjected to a vigorous *pull* down the sharp incline of the pendulous abdomen. The process may be repeated.

The forces which are made to combine in changing the location of the pelvic mass and the viscera of the lower abdomen, and in sundering impediments to the change, may now be understood at a glance. 1. Gravitation of the viscera, practically reversed. 2. The diaphragm is converted into a broad piston, having an area of something like one hundred and fifty square inches, whose slightest motion takes effect with great power in co-operation with atmospheric pressure in detaching adhesions at any point of the inferior portion of the cavity. 3. Greatly increased extent of respiratory rhythm, engaging the whole power of the act in drawing from the pelvis. To the above may be added the following adjuvants: 4. Reflex, secured by placing the hand of an operator on the abdomen of the patient *during* the process. 5. Concentrating the effect by diminishing the time—that is, by a *quick* instead of *slow* execution of the process—converting the pelvic pull into something approximating a *blow*, for securing *divulsion*. 6. Prolonging the process at its stage of elevation, thereby obtaining the advantages of repetitions of rhythm, concentrating and multiplying its force at the pelvic region. 7. By the energetic co-operation of the *will* of the patient in the execution of the process, thus vastly increasing the above-described effects. 8. By allowing the patient to *remain* on the couch, face down, arms upward extended. Continuance of the position causes continued expansion of the diaphragm and continued extension to the pelvis of the concentrated pump-like function of rhythm.

The process described insures expulsion from the pelvic organs of excess of fluids, interstitial as well as vascular,.

degenerate as well as normal. In the vital organism, chemico-physics are controlled by motor physics; the former are incorrigible when the latter is persistently defective.

The *last* described function of the postural couch establishes and renders permanent the mechanical effects so plainly secured by that *first* described. In other words, most desirable mechanical effects are rendered physiological and indefinitely continuous—the highest aspiration of therapeutics. This consequence arises from directing and concentrating the full force of the organic energies on mechanico-physiological processes, whose previous defects are the fundamental source of both malpositions and disease of the pelvic contents. The processes aided by the couch conclusively prove the nature of the greater number of pelvic affections. There can be no better evidences of the nature of a cause than the prompt disappearance of its effects on removing the cause. These processes also typify the nature of the cultivation required. Other and similar processes, executed without the aid of the couch, are effective in the same direction.

We may now briefly recapitulate the uses of the positional and "lifting" couch—uses which also extend to other mechanico-physiological processes adapted to similar ends:

1. The highest function of the apparatus is *educational.* Its use quickly develops and establishes beyond cavil ætiological principles and facts dominating the surgery and therapeutics of the pelvic and contiguous abdominal regions. Its scope includes not only the uterus, ovaries, tubes, ligaments, and connective tissues, but their blood-vessels and interstitial fluids. It equally includes the rectum, its vessels, the pelvic floor, and the base of the abdomen. It affords physicians facilities for *testing* the accuracy of the statements of mechanico-physiological principles above explained, and of convicting the author of inaccuracy, or else of according to them the merit to which they are entitled.

2. It establishes remedial principles for restoring strangulated hernia, effective in any case not moribund. It shows the practical mode of removing chronic hernia, even when long irreducible and held by adhesions. No bandages, trusses, or other supports are needed for after-treatment.

3. It establishes the principles of permanent uterine sustentation, which includes the removal of retro- and other flexions, and ovarian displacements. All so-called supporting instruments, internal and external, are rendered superfluous. This remedial principle includes continuous and permanent sustentation, secured through proper cultivation and development of the natural *functional* support.

4. The same apparatus indicates the practical method of securing effective and complete physiological *drainage* of all organs within the pelvic cavity, whatever be the pathological form of the consequences of defect of this function. The methods pointed out for securing this purpose are effective in all varieties of hæmorrhoids and other morbid states of the rectum, in varicocele and hydrocele, in ovarian and uterine tumors, as well as in malpositions and minor troubles of the female organs.

5. It is important to keep in view the combination of mechanico-physiological operations which conduce to the radical curative effects mentioned. Respiratory rhythm is extended into and its extent or play is increased in the pelvis. The gliding of organs and parts due all serous surfaces is secured. The pelvic contents are subjected to fifteen or twenty alternations of pressure every minute constantly, affording the spontaneous *massage* normal to the parts. The venous vessels are subjected to incessant organic *aspiration.* Morbid as well as normal interstitial outflow results from the operation of the same mechanico-physical laws. Deteriorated local fluids are submitted to the chemistry of the whole organism. The higher aims and more radical purposes of pelvic therapeutics are served.

THE HYGIENE OF CIRCUMCISION.*

By JEFFERSON C. CROSSLAND, A. M., M. D.,
ZANESVILLE, OHIO.

Is the prepuce a useful and needful appendage, or is it needless and detrimental to health? This double question can be answered only by considering the function of that part of the anatomy, and by summarizing the advantages and disadvantages *pro* and *con.*

What is the function of the foreskin? Anatomists and lexicographers assign no function to it other than that of a covering for the glans. Suppose that to be its real and only function. It then becomes necessary to determine whether that function is essential or conducive to the organic and functional integrity of the genitalia.

A consideration of the conditions which ensue upon the removal of the foreskin will determine this matter. In consequence of circumcision the epithelial covering of the glans becomes dry, hard, less liable to excoriation and inflammation, and less pervious to venereal viruses. The sensibility of the glans is diminished, but not sufficiently to interfere with the copulative function of the organ or to constitute an objection. The activity of the odoriferous glands of Tyson situated on the corona and cervix is diminished, a desideratum indeed.

The changed condition of the epithelium is a sufficient substitute for the prepuce as a protection. Moreover, among the Jewish people, who have practiced circumcision as a religious rite for nearly fourscore centuries, no legitimate objection to the practice has been found.

Therefore, without fear of contradiction, I conclude that the foreskin is non-essential. Having proved, as I think, its inutility, it remains to be proved whether or not it is detrimental to health.

This may be ascertained by studying the modifying influence of the foreskin on diseases affecting that part of the anatomy.

Chief among those diseases is syphilis, with its initial sore, usually upon the penis. Chancre may be found anywhere upon the penis or within the urethra. The more common sites are the region of the coronal furrow and the inner preputial surface.

---

* Read before the Hildreth Medical Association.

The local sore, when existing in these more common sites, is not infrequently concealed by consequent inflammation of the foreskin, which obscures or renders impossible a diagnosis until constitutional symptoms have appeared. Treatment, both local and constitutional, is delayed.

It may be said that the delay in treatment, owing to inability or neglect to make a diagnosis, is of no import so far as subduing the disease is concerned. This may be true, but to the patient who may be subjected to the chagrin of having to wear the unmistakable signs of his loathsome disease, which might have been rendered less conspicuous or totally suppressed by prompt medication, it is no inconsiderable matter.

Syphilis and gonorrhœa may both be contracted at the same time. The patient presents himself for medical relief. The gonorrhœa is evident, and a chancre is hidden by a complicating phimosis which is unjustly attributed to the gonorrhœa. The hasty and unobserving physician wages war upon the gonorrhœa for several weeks, when he is informed by systemic symptoms of the presence of a more formidable enemy.

Two such cases have recently come to me from another physician at the seventh and eighth week. Chancroids may be concealed by an œdematous or phimosed foreskin, while their secret depredations are doing irreparable damage. It need hardly be remarked that inflammatory phimosis and paraphimosis are frequent and ugly complications of gonorrhœa.

Owing to a higher degree of cleanliness and a diminished sensitiveness, herpes, balanitis, and vegetations are far less frequent affections of the circumcised organ.

I have seen large warts as well as chancroids and chancres occurring on the inner preputial surface leave such cicatrices as to cause simple phimosis. Severe frequent and prolonged inflammations of the prepuce often result in a chronically thickened, indurated, and hypertrophied condition of the prepuce, constituting phimosis, or an enormous collar behind the glans, paraphimosis. The foreskin when redundant may, especially in children, retain more or less urine, which by its ready decomposition, as well as that of smegma, proves a fertile cause of inflammation. It is well authenticated that the foreskin, and especially the anomalous forms, are a fruitful cause of the habit of masturbation in children.

From this study of the question, I conclude that the foreskin is detrimental to health, and that circumcision is a wise measure of hygiene.

Correspondence.

LETTER FROM LONDON.

Perforation of the Vermiform Appendix.—Hepatic Surgery.—A Surgical Calamity.

London, *March 31, 1891.*

Among the several important discussions that have lately taken place at our societies, that on the removal of the vermiform appendix will probably rank as one of the most valuable. There was by no means unanimity, even among the surgeons, as to which cases were to be submitted to operation and when was the best time to operate. Mr. Pearce Gould divided all the cases into three groups. In the first, which constituted the majority, there was a local suppurative peritonitis limited by adhesions and usually due to perforation of the appendix. In this class a small incision and drainage were needed, care being taken not to break down the adhesions and so set up a general peritonitis. He did not advise any attempt to remove the vermiform appendix, as he did not believe it ever did any harm when left, even if ulcerated. His second group comprised cases in which there were no adhesions and in which perforation was followed by general peritonitis. In these, early operation was urgently called for, with careful irrigation of the whole peritoneal sac; an incision must always be made over the vermiform appendix, whether a median one was also made or not. The third group consisted of the relapsing cases, with little tendency to suppuration. In these, prolonged rest often led to complete quiescence, and to defer the operation until local suppuration had intervened did not expose the patient to any great additional risk.

Mr. Knowsley Thornton has recently placed on record his experience in the matter of hepatic surgery. His paper read before the medical society gave notes of nine cases in which gall-stones had been diagnosticated, and successfully removed in seven. In one the gall-stone could not be found during life, but was found after death in the peritoneal cavity, and in one the cause of the symptoms was pressure from hydatid cysts, and there were no gall-stones. He admitted the need for greater precision in the matter of diagnosis, and thought this would be greatly aided by more frequent exploration in doubtful cases. After referring to the chief points in the diagnosis of gall-stones in the bladder, in the cystic duct, and in the common duct, he pointed out that adhesion of the gall-bladder to the right kidney was a fruitful source of error in diagnosis, both from the position of the swelling and the sympathetic renal symptoms induced. He mentioned three entirely new departures in this branch of surgery—viz.: 1. Direct incision of the common duct and removal of the stone, with complete suture of the opening without opening the gall-bladder. 2. Incision into the common duct, needling the stone into fragments, closing the duct over the fragments and leaving them to find their own way into the duodenum. 3. Leaving the gall-bladder open in the peritonæum, with efficient provision for drainage through the abdominal incision, in cases in which it was not advisable to attempt complete intraperitoneal suture. In the latter cases, and in all cases where fouling of the peritonæum was possible, he strongly advised a counter-opening above the pubes and additional drainage by means of a glass tube in Douglas's pouch.

It is not always that when a surgeon has had a misfortune in an operation he has the courage to report it, but at a recent meeting of one of our societies a prominent surgeon, who shall be nameless, recorded a case of fatal rupture of the bladder during lithotrity. The patient, a pale and cachectic boy of five years, had had symptoms of stone in the bladder for about two months. On his being sounded, a small stone was detected and slight bleeding took place. He was kept at rest in bed for twelve days, with a view of improving his general health, after which chloroform was administered, a No. 6 lithotrite was introduced, and the stone was easily crushed. The bladder was washed and the fragments were removed with a No. 9 evacuating tube. The operation was practically at an end and a final washing was being performed when an ominous gurgling was heard. All resistance to the flow from the evacuator ceased and an unmistakable wave ascended behind the anterior abdominal wall. On detaching the wash-bottle, only a trifling amount of water escaped by the tube. There could be no doubt that the bladder had given way and that the only chance for the boy's recovery lay in sewing up the rent. Without a moment's delay the abdomen was opened by a three-inch incision in the linea alba above the pubes. There was some difficulty in finding the rent in the collapsed bladder; it was, however, eventually detected at the root of the urachus in front of the peritonæum. It was then clearly made out that the hot boric-acid lotion which had escaped from the bladder had diffused itself along the subperitoneal tissues, none of the fluid being found in the peritoneal cavity. The rent in the bladder, which was about an eighth of an inch long, was closed with sutures and the abdominal wound was sutured and dressed. It was deemed expedient to open the bladder and drain it through the peritonæum; that incision being made, the finger was introduced and a few insignificant fragments of stone which were about to be removed by the evacuator were recognized. The boy did not rally from the severe operation, and, though everything was done to diminish collapse, he sank in about eight hours. The calamity was attributed to the fact that the operator, in the absence of a wash-bottle of a size appropriate to childhood, was using one designed for adults. He had no extenuating circumstances to urge on his own behalf and he thought the only atonement he could make for his misadventure was by reporting the case in the hope that it might perchance be the means of averting a similar catastrophe at the hands of others. In that hope I have thought it right to give the case a wide publicity.

LETTER FROM DUBLIN.

A Banquet at the College of Surgeons.—Dr. Austin Meldon.—Professor Liebreich's Treatment of Tuberculosis.— The Strange Freak of a Lunatic.— The Death of Mr. H. J. K. Gogarty.— The Health Record.— The Health of Dublin during 1890.

Dublin, *March 19, 1891.*

The president of the College of Surgeons, Mr. H. G. Croly, gave the annual banquet on the 7th inst., covers being laid for two hundred. The guests included His Excellency the Lord Lieutenant, the Viscount Wolseley, the Lord Chancellor, and the leading members of the profession in Dublin. The dinner was well served, and those present spent a most enjoyable evening.

Dr. Austin Meldon has been elected a member of the council of the College of Surgeons, in place of the late Mr. A. H. Corley. Dr. Meldon, who is an ex-president, during his year of office won golden opinions for the manner in which he discharged the duties of the chair and for his splendid hospitality.

Koch's treatment of tuberculosis has apparently seen its best day, and but little interest is now taken in this method as compared with a few months since. "Tuberculin" or "Kochin," as it is variously called, is rarely administered at the Vienna hospitals, and in its place has been substituted the method proposed by Professor Liebreich—viz., using injections of cantharidinate of potassium. By this remedy much less disturbance takes place as compared with Koch's treatment. Liebreich states that the action of the cantharidin is to promote exudation of serum from the blood-vessels. It causes increased expectoration in laryngeal and pulmonary tuberculosis, and ulcers in the larynx heal rapidly, while it is also of benefit in cases of lupus. Naturally, after the comparative failure of "Kochin," observers of the new method are not over-sanguine, but, so far as it has been tried, it has apparently been of service.

Another treatment used in France is that of injecting goats' blood into those suffering from tuberculosis, this having been suggested by the fact that goats do not suffer from pulmonary phthisis. On examination of goats' blood, the observer thought he detected certain bodies that were absent from other kinds of blood, and this led him to believe that they contained something antagonistic to the bacilli of tuberculosis. The theory may be correct or not, but in practice it certainly has failed most lamentably, and last week no fewer than four deaths took place in Paris of tuberculous subjects treated by injections of goats' blood.

Patrick Connors, aged twenty-nine, died recently in the Cork Lunatic Asylum under rather singular circumstances. One morning it was reported that Connors would not eat his breakfast, and the doctor in charge placed him in hospital, where it was noticed that when he was drinking his throat appeared to be obstructed. On using a probang, it was found that some pieces of wood were present, but, on their being removed, it was evident that a large, hard foreign substance still obstructed the œsophagus. Œsophagotomy was then performed, and a stone weighing over six hundred grains was removed. The patient for a few days did fairly well, but an attack of acute maniacal excitement set in and he succumbed from exhaustion. It may be interesting to add that, upon making a post-mortem examination, eight stones were found. One was an inch and a quarter long by half an inch thick; two others were rectangular and nearly as large; and nearly all the rest were of about the size of marbles, all being in the intestines.

Mr. H. J. Kelly Gogarty died at his house in Rutland Square last week quite suddenly from heart disease. The deceased, who was forty-nine years of age, was a fellow of the Royal College of Surgeons, and some years ago acted for a short time as an examiner in anatomy at the college.

The first number of *The Health Record*, a journal of sanitary science, was published this month. It is a monthly paper published in Dublin and devoted to sanitary matters. There are papers by Sir C. Cameron, medical officer of health for Dublin; and others well worthy of perusal.

The births registered in Dublin last year were equal to 27 in a 1,000 of the population, and the deaths to 26·8. Zymotic diseases, which had been 1,230 in 1888, fell to 1,057 in 1889, and last year were 1,019, or 418 below the average for the ten years 1880–'89. Last year there were only 8 fatal cases of scarlatina, against an average of 207 for the past decade, while typhus fever only caused 25 deaths, or little more than one fourth of the average for the past ten years. For the last three years also, it is satisfactory to note, there has not been a fatal case of small-pox recorded.

The Fœtal Pulse.—"At the Berlin meeting of the International Medical Congress, Dr. Pestalozza, of Pavia, showed sphygmographic tracings of the fœtal pulse. A woman had given birth to twins. During the expulsion of the first child very regular pulsations, visible to the eye and palpable to the touch, were observed on the abdominal wall at a point corresponding to the fundus uteri. Dr. Pestalozza, having assured himself that the pulsations were independent of the maternal circulation, that they were evidently fœtal, and that they averaged 140 beats per minute, took tracings. From a careful examination of these tracings, he concluded, contrary to the accepted opinion of most obstetricians, that the uterine contractions during labor do not modify the fœtal pulse either in its volume or its frequency."—*British Medical Journal.*

Notice to the Military Surgeons of the National Guard.—Dr. Nicholas Senn, of Milwaukee, surgeon-general of Wisconsin, is desirous of obtaining the name and address of every surgeon of the National Guard for the purpose of taking the preliminary steps toward the formation of a permanent national association.—*Medical News.*

THE
NEW YORK MEDICAL JOURNAL,
A Weekly Review of Medicine.

Published by
D. Appleton & Co.

Edited by
Frank P. Foster, M. D.

NEW YORK, SATURDAY, APRIL 25, 1891.

DO BIRDS HAVE GOUT?

An interesting consideration of this question occurs in Dr. J. Bland Sutton's remarkable book on *Evolution and Disease.* Among closely-allied families of mammals, vagary in the liability to or immunity from special disease is frequently shown. Take, for instance, gout. No one has ever clearly shown that this affection occurs in animals other than man. It has been stated, however, that parrots are subject to gout. The question assumes a very interesting aspect when studied in relation to a disease of the hog known as guanine gout. The most constant pathological condition in gout is the deposit of urate of sodium. In swine—sometimes in man—occurs the parasitic disease trichiniasis. The *Trichina spiralis*, when hatched, as is well known, finds its way into the voluntary muscles of man and the pig, then becomes encysted, and in due course is surrounded by calcareous particles. The encysted worms are visible to the naked eye as small dots in cut surfaces of muscle. In 1866 Virchow detected in a piece of ham some small white concretions which were regarded as trichinæ, but, on examination, were found to be of crystalline structure and to show the reaction of guanine, or imidoxanthine, an amorphous alkaloid resulting from chemical changes in animal tissues, first discovered by Unger in Peruvian guano.

Guanine seems to be very widely distributed in the animal kingdom. It occurs in the scales of fishes, in the excrement of spiders, in the skin of frogs and lizards, in the pond mussel, in the pancreas and liver of the horse, and occasionally in the human liver, pancreas, and spleen. Guanine produces lesions identical in their pathological anatomy with gouty lesions—that is to say, it becomes deposited in cartilage and fibrous tissue, forming deposits exactly resembling the urate-of-sodium deposits in man. Microscopic investigation confirms the evidences of the eye. Such deposits in parrots, fowls, falcons, ostriches, etc., are to the eye indistinguishable from the gouty nodules seen in man. The analogy goes beyond what can be merely seen, for these deposits consist of a crystalline substance resembling guanine and urate of sodium, and responding to the murexide test. The two are closely allied bodies, and it is no easy matter to distinguish between them. Further investigation alone can decide whether these nodular lesions of parrots and other birds are really of the same nature as those of gout in man, or allied to those of the guanine gout of the hog. It is very probable that some cases of supposed uratic gout in man are really cases of guanine gout.

MINOR PARAGRAPHS.

SUCCESSFUL TREPHINING FOR TRAUMATIC RUPTURE OF THE MIDDLE MENINGEAL ARTERY.

In the *Gazette hebdomadaire de médecine et de chirurgie* for December 27, 1890, there is a report by Dr. Rochet of the following very interesting case: A man, aged twenty-eight, was thrown violently to the ground, striking upon the right parietal protuberance; he was carried, unconscious, to a house, where he remained for some twenty-four hours before being removed to a hospital. He was then like a person in a deep sleep, though when interrogated he would open his eyes but make no other response; there was ecchymosis of both eyelids, of the zygomatic region, and of the temporal fossa, but none of the conjunctivæ, with swelling of the entire ecchymosed region of the right side. Pressure over this region produced pain sufficiently severe to rouse the patient from his torpor and produce grimaces. There was no injury to the integument, and there was no hæmorrhage or serous discharge from the ears or the nasal fossæ. There was neither paralysis of the face or extremities nor incontinence of urine or fæces. But on the third day after the accident facial paralysis began, with conjugate deviation of the eyes; the left arm was completely, and the left thigh and leg were partially, paralyzed; cutaneous sensibility had diminished; the right pupil was widely dilated; and the right cornea was almost absolutely insensible. On the fourth day, if he was asked where and how he suffered, he constantly indicated the right side of his head; during that night he was agitated, crying at times, at others attempting to rise. He remained in the condition noted on the third day for five days, when surgical intervention was decided upon. The operation was begun, after the usual antiseptic preliminaries, with a crucial incision over the right fissure of Rolando, and on throwing back the flaps a long line of fracture was seen crossing the parietal bone. A trephine was applied where this line crossed the line of the fissure, and on removing the bone button there was a jet of black blood; this ceased spontaneously, disclosing a black clot at the orifice. The orifice was enlarged with a gouge and mallet to from 6 to 7 centimetres in length by from 2 to 2·5 centimetres in width. There was clot in all this region; that was removed carefully with the finger and curette, disclosing a cavity as large as an orange occupying all the temporo-parieto-occipital region and limited externally by the cranium and internally by the flattened right hemisphere. While the last of the clot was being removed there was a jet of arterial blood that stopped this work. The cavity was washed with boric-acid solution and gently packed with iodoform gauze; no sutures were taken in the scalp; the external wound was dressed with sterilized cotton. During the evening of the day of the operation the patient recovered his consciousness, and the hemiplegia was greatly improved. The wound was dressed on the day after the operation; the cavity had decreased in size, there were some clots, and the hemisphere pulsated. On the succeeding day the facial paralysis disappeared, though the tongue still deviated slightly. The patient progressed satisfactorily to recovery, the only lingering symptoms being an awkwardness of the left arm and occasional vertiginous sensations.

THE SURGICAL TREATMENT OF POTT'S DISEASE.

According to *Le Mercredi médical*, at a recent session of the Medical Society of Vienna, Dr. von Eiselberg presented a paper on the surgical treatment of vertebral caries, in which he stated that, where the disease was unaccompanied by complications, the ordinary treatment of immobilizing and supporting the spinal column gave satisfactory results. This method was sufficient also in cases associated with abscess in which the latter did not produce any particular trouble. If, however, the abscess caused complications, it should be punctured, emptied, and injected with glycerin and iodoform, or a large incision should be made, the pyogenic membrane scraped, the iodoformized glycerin injected, and the walls sutured. But in cases in which the disease produced paralysis, a more energetic treatment was required unless the paralysis would disappear on simply straightening the vertebral column. Not infrequently paralysis of the bladder and rectum occurred, and surgical intervention was demanded; accordingly, a median incision should be made over the spines of the vertebræ, the laminæ should be resected with care, the carious portions of the bodies of the vertebræ removed with a chisel or sharp spoon, and the pachymeningitic fungosities that compressed the cord and caused the paralysis should be thoroughly scraped away. He presented a girl, ten years of age, who had angular curvature involving the fourth, fifth, sixth, seventh, and eighth dorsal vertebræ, with complete paraplegia, including bladder paralysis. The laminæ and arches of the seventh, eighth, ninth, tenth, and eleventh dorsal vertebræ were excised, the pachymeningitic fungosities were removed, and in a few days after the operation the paralysis was relieved, the patient being discharged recovered in two months. Professor Billroth, in the discussion on the paper, expressed himself as not very hopeful of the outcome of these operations, for anatomo-pathological reasons. Without speaking of many cases that were cured spontaneously, it seemed to be overlooked that surgical intervention was grave and hæmorrhage sometimes serious. Another question for consideration was that of whether the bones would preserve sufficient resistance for the vertebral column. It would seem that only the record, and careful subsequent observation, of a number of such cases would answer these questions.

THE WEIGHT OF THE BODY DURING TYPHOID FEVER.

Dr. Zjenetz, in the *Wiener medicinische Wochenschrift*, Nos. 43 and 44, 1890, publishes the results of a careful study of the weight of the body during the course of three hundred and eighty four cases of typhoid fever. The loss of weight keeps on while the fever exists, occasionally continuing during convalescence, and but rarely ceasing until there is no longer any pyrexia. The loss is most decided in the beginning of the disease, and it gradually diminishes subsequently. The increase of weight that occurs during the first week of convalescence is quite marked, becoming less in the subsequent weeks. The variations from the usual increase or decrease seem to be due to diarrhœa, sweating, intestinal hæmorrhage, or such complications as pleurisy or pneumonia. If any of these are well marked, the loss of weight will continue during convalescence. There always seemed to be a direct relation between the loss of weight on the one hand and the intensity of the disease on the other.

THE GOUTY DIATHESIS IN WOMEN.

Before the French *Académie de médecine*, on October 14, 1890, says the *Gazette des hôpitaux*, Dr. Bandon, of Nice, read a paper upon this subject. Classic gout, he says, is certainly rare in women, but gout in its broad sense manifests itself often, for among women many difficulties disappear under alkaline treatment, massage, etc. Especially is this true of morbid processes in organs supplied by the pneumogastric nerve. Marboux also finds that many affections of the genital tract are not amenable to treatment until the gouty element is recognized and provided for. Menstrual disturbances, epistaxis, hæmorrhoids, skin diseases, migraine, and certain forms of phthisis, demonstrate the fact that women may and do have gout as often as men. The manifestations differ in form only. At the time of some crisis, the urine is dense and red, and contains uric acid in abundance. In women affected with ovarian and uterine troubles of gouty origin the menstrual discharge also contains uric acid in solution.

SPONGE DRESSINGS IN WOUNDS WITH PROFUSE SECRETIONS.

The *Annals of Surgery* refers to Dr. Antonio Ricci's account, in *Lo Sperimentale*, of his success in the treatment of an extensive suppurating surface, caused by a burn of both sides of the body, with thin slices of sponge sterilized in boiling water and soaked in an antiseptic solution. On removing the sponges, the surface of the wound was found free from any secretion and of a healthy reddish color. The presence of the dressing produced not the slightest irritation. After about six days of this treatment the ulcer began to close; the number of sponges was then gradually reduced, and repair progressed to complete recovery.

ITEMS, ETC.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported during the two weeks ending April 21, 1891:

DISEASES.	Week ending April 14.		Week ending April 21.	
	Cases.	Deaths.	Cases.	Deaths.
Typhus	3	1	1	0
Typhoid fever	6	2	9	3
Scarlet fever	235	34	183	42
Cerebro-spinal meningitis	2	1	5	5
Measles	357	22	313	28
Diphtheria	93	30	102	44
Small-pox	1	0	2	0
Varicella	12	0	12	0
Whooping-cough	4	0	2	0

The New York Hospital.—The new building on West Sixteenth Street, adjoining the administrative building, is so nearly completed that the greater portion of it, which is to be devoted to the training school for nurses, will be open to inspection by an invited company next Tuesday evening. It is expected that the first floor and the basement, to be occupied respectively by the library and the pathological museum, will be ready in the course of a few weeks.

The Association of American Medical Editors will meet at the Arlington Hotel, in Washington, on Monday evening, May 4th, under the presidency of Dr. F. L. Sim, of the *Memphis Medical Monthly*.

The New York College of Pharmacy will hold its sixty-first annual commencement on Monday evening, the 27th inst., at the Metropolitan Opera House.

Dr. Ludwig Weiss's Sanitarium.—Dr. Weiss has opened a private sanitarium at No. 593 Lexington Avenue, for a general medical and surgical practice, including the treatment of mild cases of nervous and mental diseases. We are informed that in this institution physicians can retain the entire charge of their own patients.

Changes of Address.—Dr. Herman L. Collyer, to No. 109 East Fifty-fourth Street; Dr. Daniel P. Pease, to the Hoffman House.

The Death of Dr. James Kingsley Thacher, of New Haven, Conn., took place on Monday, the 20th inst. The deceased, who was the professor of physiology and clinical medicine in the medical school of Yale University, was forty-three years old. He was distinguished as an investigator and in literature.

Army Intelligence.—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from April 12 to April 18, 1891:*

By direction of the Secretary of War, the following changes in the stations of medical officers are ordered:

Wood, Marshall W., Captain and Assistant Surgeon, is relieved from duty at Fort Meade, South Dakota, and will report in person to the commanding officer, Fort Preble, Maine, for duty at that post, relieving Captain William B. Davis, Assistant Surgeon. Captain Davis, on being relieved by Captain Wood, will report in person to the commanding officer, Fort Clark, Texas, for duty at that station. Par. 11, S. O. 85, A. G. O., Washington, D. C., April 15, 1891.

Middleton, Passmore, Major and Surgeon, is, by direction of the Acting Secretary of War, granted leave of absence for six months, on surgeon's certificate of disability. Par. 4, S. O. 81, Headquarters of the Army, A. G. O., April 10, 1891.

By direction of the Secretary of War, a board of medical officers, to consist of McElderry, Major and Surgeon; Merrill, James C., Captain and Assistant Surgeon; Carter, W. Fitzhugh, Captain and Assistant Surgeon, is appointed to meet at West Point, N. Y., May 1, 1891, or as soon thereafter as practicable, to examine such cadets of the U. S. Military Academy as have been granted leave of absence until that date on account of physical disability, and to report upon their physical fitness to continue with the Corps of Cadets. Par. 2, S. O. 83, A. G. O., Washington, D. C., April 13, 1891.

Birmingham, Henry P., Captain and Assistant Surgeon. By direction of the Acting Secretary of War, the leave of absence granted in S. O. 39, March 13, 1891, Department of the Columbia, is extended one month. Par. 2, S. O. 81, Headquarters of the Army, A. G. O., Washington, D. C., April 10, 1891.

Naval Intelligence.—*Official List of Changes in the Medical Corps of the United States Navy for the week ending April 18, 1891:*

Beardsley, Grove S., Medical Director. Appointed a delegate to represent the Medical Department of the Navy at the meeting of the American Medical Association at Washington, D. C., May 5th.

Flint, James M., Surgeon. Appointed a delegate to represent the Medical Department of the Navy at the meeting of the American Medical Association at Washington, D. C., May 5th.

Griffith, S. H., Passed Assistant Surgeon. Detached from the U. S. Steamer Dolphin, and granted one month's leave of absence from date of detachment.

Marine-Hospital Service.—*Official List of the Changes of Stations and Duties of Medical Officers of the United States Marine-Hospital Service for the two weeks ending April 18, 1891:*

Bailhache, P. H., Surgeon. To represent the Service at the annual meeting of the California State Medical Society. April 8, 1891. Detailed as chairman of Board for the Physical Examination of Officers, Revenue Marine Service. April 14, 1891.

Vansant, John, Surgeon. Detailed as chairman of Board for Physical Examination of Officers, Revenue Marine Service. April 14, 1891.

Austin, H. W., Surgeon. Detailed as chairman of Boards for Physical Examination of Officers and Candidates, Revenue Marine Service. April 14 and 15, 1891.

Gassaway, J. M., Surgeon. Leave of absence extended five days. April 15, 1891.

Stoner, G. W., Surgeon. To proceed to Alpena, Mich., on special duty. April 12, 1891.

McIntosh, W. P., Passed Assistant Surgeon. Detailed as recorder of Board for Physical Examination of Officers, Revenue Marine Service. April 14, 1891.

Magruder, G. M., Passed Assistant Surgeon. Detailed as recorder of Board for Physical Examination of Officer, Revenue Marine Service. April 15, 1891.

Perry, T. B., Assistant Surgeon. Ordered to examination for promotion. April 6, 1891.

Woodward, R. M., Assistant Surgeon. Ordered to examination for promotion. April 6, 1891.

Goodwin, H. T., Assistant Surgeon. Ordered to examination for promotion. April 6, 1891.

Vaughan, G. T., Assistant Surgeon. Ordered to examination for promotion. April 6, 1891.

Geddings, H. D., Assistant Surgeon. Detailed as recorder of Board for Physical Examination of Officers and Candidates, Revenue Marine Service. April 14, 1891.

Perry, J. C., Assistant Surgeon. Detailed as recorder of Board for Physical Examination of Officers, Revenue Marine Service. April 14, 1891.

Groenevelt, J. F., Assistant Surgeon. To rejoin station (New York). April 13, 1891.

Rosenau, M. J., Assistant Surgeon. To proceed to Cairo, Ill., for temporary duty. April 13, 1891.

Society Meetings for the Coming Week:

Monday, *April 27th:* Medical Society of the County of New York; Boston Society for Medical Improvement; Lawrence, Mass., Medical Club (private); Cambridge, Mass., Society for Medical Improvement; Baltimore Medical Association.

Tuesday, *April 28th:* Medical and Chirurgical Faculty of Maryland (first day—Baltimore); Texas State Medical Association (first day—Waco); New York Dermatological Society; New York Academy of Medicine (Section in Laryngology and Rhinology); Buffalo Obstetrical Society; Medical Society of the County of Putnam (quarterly), N. Y.; Hunterdon, N. J., County Medical Society (Flemington); Litchfield, Conn., County Medical Society (semi-annual).

Wednesday, *April 29th:* State Medical Society of Arkansas (first day—Hot Springs); Medical and Chirurgical Faculty of Maryland (second day); Texas State Medical Association (second day); Auburn, N. Y., City Medical Association; Berkshire, Mass. (annual—Pittsfield), and Middlesex, Mass., North (annual—Lowell) District Medical Societies; Gloucester, N. J., County Medical Society (quarterly).

Thursday, *April 30th:* State Medical Society of Arkansas (second day); Medical and Chirurgical Faculty of Maryland (third day); Texas State Medical Association (third day); National Association of Railway Surgeons (first day—Buffalo).

Friday, *May 1st:* State Medical Society of Arkansas (third day); Texas State Medical Association (fourth day); National Association of Railway Surgeons (second day); Practitioners' Society of New York (private); Baltimore Clinical Society.

Saturday, *May 2d:* American Academy of Medicine (first day—Washington); National Association of Railway Surgeons (third day); Clinical Society of the New York Post-graduate Medical School and Hospital; Manhattan Medical and Surgical Society (private); Miller's River, Mass., Medical Society.

Answers to Correspondents:

No. 353.—Our impression is that your former registration would not answer, but that a new registration made before September 1st would. We advise you, however, to consult a lawyer.

No. 354.—The following States have laws constituting medical licensing bodies: Alabama, California, Colorado, Florida, Illinois, Iowa, Minnesota, Mississippi, Missouri, Montana, New Jersey, New York, North Carolina, North Dakota, Oregon, South Carolina, Tennessee, Vermont, Virginia, Washington, and West Virginia. Massachusetts has no such law. In the District of Columbia a committee of the District Medical Society is empowered to indorse diplomas or hold examinations.

Letters to the Editor.

THE RADICAL CURE OF UMBILICAL HERNIA IN CHILDREN.

Baltimore, *April 3, 1891.*

To the Editor of the New York Medical Journal:

Sir: In the Journal of January 31, 1891, appeared a short notice of a simple manner of treating umbilical hernia in children after the manner of Dr. Nota, who had reported success in eighteen cases.

Having a case of congenital umbilical hernia under observation, I concluded to follow Dr. Nota's process, and am pleased to have to report a perfect success. The case was that of a boy, aged six weeks, a very large, robust child, otherwise perfectly formed. He was nursed by the mother, a perfectly healthy, strong woman with an abundance of milk of good quality. Yet the child was of a very constipated habit, and by intense straining he rapidly enlarged the hernial protrusion. None of the ordinary devices were of any avail. His restlessness and powerful straining displaced every apparatus I could devise. Preparatory to the operation, I ordered half a drop of fluid extract of cascara sagrada to be given three times daily in a little syrup. This acted efficiently and stopped the straining in great measure.

I operated in the manner suggested by Dr. Nota, and was efficiently assisted by Dr. S. T. Earle, of this city. There is some difficulty in keeping the rubber tubing on the stretch in passing it around the base of the tumor, and great care has to be exercised in this portion of the procedure, as success depends upon the ligature being tolerably tense. In securing the knot by means of silk, Dr. Earle suggested an improvement which I shall try should I have to resort to this operation again. His suggestion was to fasten the ends of the tubing by a split shot, which would clamp them very effectually.

In the notice of Dr. Nota's operation in the Journal there was no mention of pain, and I rather expected some trouble from this source, but was agreeably disappointed. At the time of operating I left a small quantity of a four-per-cent. solution of cocaine hydrochloride to be applied with a brush should pain be caused; thinking that the ligature would abrade or cut the cuticle sufficient to allow of absorption, I also left a prescription for one grain of phenacetin, in simple elixir, to be given at a dose in case of great pain, and repeated according to circumstances. The report the next day was that the child was suffering some pain in about two hours after the operation, and that they had used the solution of cocaine and given the phenacetin once. The child went to sleep soon afterward and slept all night, and was quite drowsy on the following day. He then seemed to suffer no pain and was otherwise quite well. He never had any bad symptoms and the tumor dropped off on the twelfth day. I then dressed the small ulceration with five-per-cent. aristol and lanolin on absorbent cotton, and in three or four days it had entirely healed. There is now no appearance of a tumor, and the belly looks perfectly normal, excepting the depression of the umbilicus, which is now more superficial.

W. C. Kloman, M. D.

THE ATMOSPHERIC TRACTOR.

Hoboken, N. J., *April 13, 1891.*

To the Editor of the New York Medical Journal:

Sir: In the last number of the Journal I find an account of the discussion which was held in the Academy of Medicine, Section in Obstetrics and Gynæcology, on the subject of the atmospheric tractor. Though I do not know if Dr. McCahey professes to be the inventor of the instrument, I think that the following few remarks which I should like to make will be of interest to you and the readers of the Journal.

The aerotractor, or, as Dr. McCahey calls it, the atmospheric tractor, is by no means a new instrument, as it was invented by Professor Simpson in the year 1849. The instrument was extensively tried in Europe after that year, and it was found that it was harder to apply than the forceps; that the traction force, which theoretically was between 60 and 80 pounds, was practically not more than about 15 or 20; that the instrument would become detached from the fœtus if rotation or leverage was tried; furthermore, that, if by accident air entered between the fœtal parts and the rubber cup, the instrument would suddenly be detached, and in leaving the vagina was likely to rupture the perinæum. Lastly, in two cases the aerotractor caused cephalæmatomata in the new-born children. I take these data out of Dr. von Scanzoni's *Handbook of Obstetrics*, published in Vienna in 1855.

A. W. Herzog, M. D.

Proceedings of Societies.

NEW YORK ACADEMY OF MEDICINE.

Meeting of March 19, 1891.

The President, Dr. Alfred L. Loomis, in the Chair.

A Contribution to the Study of Malaria in New York City.—Dr. Walter B. James read a paper with this title. His object, he said, was to give the results of the study of a fairly large number of cases here in New York city supposed to be entirely or in part of a malarial nature. The chief interest in the cases consisted in the fact that they were looked at from the standpoint of recently developed knowledge of the pathology of malarial disease. It might be regarded as established that malarial disease was characterized by the presence in the blood and other organs of a living organism having a characteristic appearance and easily to be distinguished from all the other known parasites of the human body. This organism was an animal and belonged to the group *Protozoa*. Its further exact position in the animal series had not been certainly established. It appeared in the blood of the affected individual in a variety of forms. In the organisms found in acute intermittent fever there was a series of developmental phases to which the periodicity of the symptoms seemed to bear a distinct relation. At the time of the paroxysm there was always to be found a certain number of the *Protozoa* in the stage of reproduction, and these forms were not found at any other time. The only way to determine definitively whether a given spot was malarial or not was to put people there and see if they contracted the disease. There was nothing in the climate, geography, or geology of Manhattan Island, so far as our knowledge went, that made it necessary or even very likely that malarial disease existed here, nor was there any good reason why it should not exist here. So the question whether it existed here or not, and to what extent, was to be determined solely by the number of cases discovered. A diagnosis between malarial and other diseases could be made by a proper examination of the blood.

The speaker then considered those cases, numbering about four hundred, in which he had examined the blood. They had all been regarded as cases of malarial origin. They were classified according to their clinical symptoms, without regard to ætiology:

First, the fevers of an intermittent type; second, those of a remittent type; third, cases of disease other than malarial, but with a supposed malarial element; fourth, cachexias; fifth, headaches, neuralgias, malaise, etc., of such degree of periodicity as to suggest the possibility of a malarial origin. Summing up concerning the intermittents, those cases which failed to show the organisms were found, when further followed, or at the autopsy, to be a variety of disease other than malarial. Those having plasmodia in the blood showed a striking uniformity in the symptoms, also enlargement of the spleen that could always be made out by palpation. There was a history, in about ninety-eight per cent. of the cases, of having acquired the disease outside of New York city. The results of examinations in the remittent type showed that in only a very few and severe cases, and those contracted in other places, could the plasmodium be found. The milder, more irregular indigenous cases failed to show the organism and did not with any constancy exhibit enlargement of the spleen. Under the group of cases of disease other than malarial, but with a supposed malarial element, the speaker had never been able to find the plasmodium in more than one case. Typho-malarial fever might exist elsewhere in countries where almost every one had malarial disease, but in New York city, where few people had typhoid fever and few had malarial disease, it seemed to the speaker very unlikely that many persons should happen to get the two poisons at the same time. Referring to the last group of cases—of headache, neuralgias, malaise, etc.—these patients often had some explanations to offer for the presence of the disease, either suspicious house drainage, or a cellar that was being dug in the neighborhood, or a turning up of the street for paving or piping purposes. In these cases he had never yet found the plasmodium in the blood. The two points upon which the belief in the malarial nature of these cases rested were the more or less marked periodicity and the reaction to quinine and Warburg's tincture. As regarded periodicity, this was not a feature peculiar to malarial troubles. On the contrary, it was common in a great many forms of septic and other diseases, especially in children. Moreover, in malarial disease this periodicity seemed certainly due to the peculiar fact that the life history of the germ was of just forty-eight hours' duration. The paroxysm recurred because the plasmodia had again reached the stage of reproduction. But in the blood in the so-called irregular cases now under consideration the organisms were regularly not found. As regarded reaction to so-called antiperiodic remedies, this reaction was not usually remarkable.

It was generally better with Warburg's tincture than with quinine, and it seemed highly unscientific to base a diagnosis and a classification upon the therapeutic results of such a complex drug as this. Finally, the indications were: First, that the diseases commonly called malarial in New York city might safely be divided into two groups—one, malarial, being caused by the micro-organism which caused ague wherever it existed; the other, non-malarial, in the sense that they depended upon some other cause.

Of the malarial cases it might be said: 1. They showed a more marked uniformity in the symptoms in different cases than was generally believed. 2. An enlargement of the spleen was a constant symptom. 3. They almost uniformly gave a history of the disease having been acquired away from New York city.

Dr. H. M. **Biggs** said that in the matter of post-mortem evidences of malarial fevers in this locality his experience accorded with Dr. James's. It was unusual to find well-marked evidences of malarial poisoning in the examination of patients in this region. As to causation, it might be accepted as an axiom that, if any organism was found constantly present in the blood, the symptoms being constant, and if that organism was not to be demonstrated in other conditions or diseases, the organism might be set down as a causative factor. In malarial fevers observations were in accord that in typical cases there was always present some form of plasmodium. In a large number of examinations of the blood in cases of non-malarial conditions he had never found anything that at all resembled the malarial organism. The criticism that this microscopic change was a post-mortem degeneration in the corpuscle was entirely without confirmation.

Dr. **Byron** said that the conclusion that a patient had died of malarial disease was to be considered as verified if enlargement of the spleen could be demonstrated post mortem; indeed, this would form sufficient basis for the assumption even if there had been no ante-mortem symptoms. Acute yellow-fever cases were an exception to this rule. He did not think that observers were unanimous on the question of the specific micro-organism, for it could not always be demonstrated in cases which presented every other classic symptom of the disease. Some pathologists thought that the changes found in the appearance of the blood-corpuscle were not due to the presence of a micro-organism, but to an alteration in structure of the blood, produced by the action of a specific organism not yet known.

Dr. A. **Jacobi**, after reviewing his experiences with this disease, covering periods a number of years ago, during which it was rife in this city, stated his conviction that malarial disease was now seldom met with here. Intermittent and remittent fevers were, however, prevalent, and it was the duty of the microscopists to find out what they were. It was possible that trains of similar symptoms were due to different causes.

Dr. A. B. **Ball** said that there was no question that the improvement in drainage and the location of buildings had diminished the danger from the disease, and that it was difficult to trace malarial infection to any local source. Malarial remittent fever was very rare now, and possibly very few of his hearers had ever seen a case; still, the malarial germ might come when the conditions were favorable. There was no doubt that quinine had been too indiscriminately prescribed, and upon very incorrect diagnoses. A fair degree of accuracy was possible by correct methods of examination. He trusted that in the future there would be less hap-hazard diagnosticating and more accurate dosing with quinine.

Dr. W. H. **Thomson** said that there existed in New York a type of fever which, if not the real intermittent fever dependent upon Leveran's plasmodium, was a disease *sui generis* which very closely resembled the true malarial form. They had been told that a truly intermittent fever called ague was a rare disease in New York, but there was certainly a similar disease which would break out whenever the streets were turned up, instances of which he could cite from his own private practice.

Dr. **Francis Delafield** said that every one would admit that in New York patients were seen with fever which was not typhoid, or typhus, or dependent upon tuberculosis or upon inflammation in any part of the body. Such people suffered from fever as a disease. He had been in the habit of classifying such cases in the following way: 1. Patients who had distinct paroxysms, characterized by daily fever and sweating, occurring at regular intervals, either every day, every other day, or every third day. These cases, though by no means extinct, were very much less common than they were a few years ago. 2. Paroxysms of fever not preceded by chill or necessarily followed by sweating, the intervals being the same as in the preceding variety, and high temperature characterizing the attacks. 3. A continuous fever lasting about two weeks, with a well marked febrile movement, headache, and more or less prostration. Patients in this class always recovered perfectly, but the cases were difficult to distinguish from those of typhoid fever. 4. A fever, coming and going, seldom lasting twenty-four hours and the temperature never ranging very high. The patients might have this fever for a week or two every day or every other day, but there was no regular order for the attacks, which might go on for months or years. As to treatment, these fevers behaved very capriciously under remedies. In some instances quinine was effective, and in others useless; in some, Warburg's tincture did good, while in others it made the patients sick at the stomach and gave them diarrhœa. Arsenic was also uncertain in its action. Sending these people from the city seemed to be the best procedure, but recurrence was probable on their return. It was imperative that the practitioners here should recognize that we had fevers which made people sick simply with fever. Upon the matter of treatment there was still a great deal lacking, but it was clearly wrong to go on dealing with the cases as if they were all of purely malarial origin.

Dr. L. Emmett Holt said that he had been surprised to note how in the cases of pneumonia of the first two years of child life the temperature was distinctly remittent in character. It might be 106° F. in the evening, and 99° the next morning, remitting regularly for six or seven days, with the usual physical signs of broncho-pneumonia. He had been convinced that there had been no malarial complication, and that quinine did no good. The phenomena were really a part of the natural history of broncho-pneumonia and sometimes of lobar pneumonia in very young children. As to palpation of the spleen, he had come to the conclusion that, so far as children were concerned, the spleen was never enlarged so as to be of any diagnostic value. Percussion of the spleen was of very doubtful significance. There were many cases to be met with among children living in canal-boats, or in basements along the Hudson River, of fever of sudden onset and evidently caused by local telluric poisoning which yielded to quinine. He thought that any case of fever of suspicious origin which yielded promptly to quinine or was accompanied with enlargement of the spleen was presumptively of a malarial type, but such were comparatively rare in this city.

Dr. Simon Baruch quoted his printed opinion of some years ago that the sweeping diagnoses of malarial disease in New York were greatly at fault, and hoped that the opinion expressed during the evening would prove a death-blow to this prevalent error.

SECTION IN GENERAL SURGERY.

Meeting of March 9, 1891.

Dr. William T. Bull in the Chair.

An Extensive Burn of the Arm treated by Skin Grafting.—Dr. Robert Abbe presented a patient whose arm had been severely burned by the overturning of a lamp. The only portion uninvolved was less than one third of the circumference of the forearm. The injury would certainly, in the opinion of the speaker, have destroyed the use of the arm had it been treated by any other method than the one adopted. Large skin grafts were taken from the thigh sufficient to cover the entire arm and forearm. Union was immediate. The patient had now a perfect supply of skin over the entire burned surface.

Three Cases of Nephrectomy.—Dr. F. Kammerer read a paper with this title. Case I was that of a married woman, twenty-nine years old, who had previously had her Falloppian tubes and ovaries removed for double pyosalpinx, with pelvic peritonitis. Her recovery had been tedious, and symptoms of ileus finally developed. On reopening the abdomen, no adhesion of the intestines was found, but a part of the peritoneal cavity was shut off by adhesions from which, when incised, a large quantity of sero-purulent fluid escaped, with a distinctly urinous odor. In the further course of the case an abdominal urinary fistula persisted. The cystoscope disclosed the fact that the left ureter was the only one performing its function. A little later the patient was taken with a chill and subsequent high temperature. Puncture in the lumbar region demonstrated the existence of a large perinephritic abscess. On the assumption that the existing condition would prove a constant source of danger to the patient, the right kidney was removed. Recovery was uneventful. The kidney removed was entirely healthy. Within two weeks the remaining kidney secreted about fifty ounces of urine in twenty-four hours. During this time traces of albumin were frequently found, but no blood or casts.

Case II was that of a woman twenty-eight years of age. There was a family history of tuberculosis. For two years she had had suppuration of the cervical glands. About a year ago pain had set in in the left lumbar region and the back, and the urine had gradually become turbid. On the first examination, at the site of the left kidney, a tumor was felt of about twice the size of a normal kidney. The urine contained pus, but no tubercle bacilli. As the aspirator demonstrated the presence of pus, the organ was exposed by the lumbar incision and a free incision made into its cortex. During the succeeding four months the wound had gradually closed, but a renal fistula remained, discharging much pus and urine. An examination with the cystoscope revealed the fact that no fluid entered the bladder from the left ureter, but pus exuded when firm pressure was exerted upon the corresponding kidney. There had been a reformation of the tumor. The kidney was removed without any special mishap occurring. At the present time the wound had almost entirely closed, but the urine still contained some pus.

Case III was that of a married woman, thirty-four years of age, who had presented herself with a tumor in the left lumbar and hypochondriac regions as large as a child's head and reaching fully to the median line. A lumbar incision was made. The capsule was found thickened and adherent to the kidney, making it very difficult to peel it off. During the manipulations the tumor burst and about a pint of turbid urine escaped. By introducing the finger into the opening, a stone in the lower part of the pelvis of the kidney was readily detected. Finally the pedicle was reached and severed, the vessels being ligated as they were cut. After the operation the patient's condition gave hopes of a speedy recovery, but she died on the third day, from complete suppression of urine.

Quite a number of cases had been reported in which nephrectomy had been done for the relief of urinary fistula, generally with favorable results. The author was surprised to find only three cases of uretero-abdominal fistulæ among them, as injury to the ureters during difficult abdominal operations seemed to have occurred occasionally. In such cases, when the mishap was discovered at the time of the operation, attempts had been made to transplant the divided end of the ureter to some part of the abdominal wall, or nephrectomy had been resorted to. The author suggested that where the ureter had been injured during an operation, it should be closed with a ligature or a forceps, temporarily, and a tampon introduced into the abdominal cavity to the point where the ureter had been divided. Later on, when the patient had rallied and a urinary fistula persisted, nephrectomy would prove a simple procedure.

While firmly believing in the great value of cystoscopy, especially in diseases of the bladder, the author had not been so fortunate in the diagnosis of kidney troubles with that instrument. He resorted to exploratory epicystotomy, and, with the aid of an electric lamp introduced into the bladder, he had been enabled to determine the implication of both kidneys in one instance, and extensive tubercular disease of the bladder and of one kidney in the other. Considering its simplicity as a surgical procedure, its value as a diagnostic aid, the relief to the patient with irritable bladder from suprapubic drainage, epicystotomy, as recommended by Schede, ought to be more frequently resorted to in these cases.

A Tube lost in the Œsophagus.—Dr. Robert F. Weir reported a case of malignant stricture of the œsophagus, fifteen inches from the teeth, in which the difficulties of deglutition had been such as to warrant the introduction of a tube. After the tube had been in place about a week the patient had gnawed through the string that connected it with the outside world, and the whole tube and string had disappeared into the stomach. Futile efforts were made to seize it, and at length recourse was had to an emetic, which caused the disgorgement of both tube and string.

Gunshot Wounds of the Intestine and Spleen.—Dr. Weir also reported a case in which the patient had received a bullet wound in the left splenic flexure of the colon. The ball had entered an inch below the nipple and had come out in the lumbar region in the vicinity of the twelfth rib. Laparotomy was done and the peritoneal cavity was found filled with blood. Four bullet wounds were found in the intestines, and it was supposed that the hæmorrhage was from these. Careful search showed that this was not the case, and further exploration revealed the fact that the bleeding was from the spleen, its upper third having been plowed up by the bullet. An attempt was made to arrest the hæmorrhage, but, owing to the extreme friability of the organ, this was not possible. It was then drawn up, separated from its attachments, ligated, and removed. The perforated intestines were brought into the laparotomy wound with a view to the establishment of an artificial anus, but the patient succumbed to the injury.

The Inconvenience and Danger attending the Administration of Chloroform in the Presence of an Open Flame.—Dr. R. W. Amidon read a paper on this subject, in which he gave the results of a series of experiences, and the histories recorded by other observers, to the effect that under certain circumstances the giving of chloroform in a room in which there was an open flame burning might be attended with phenomena most objectionable to the surgeons and attendants, and even with danger to the patient. The requirements for the production of the effects which he described were a low, small room in which was burning any open flame that could come in contact with the fumes of the chloroform. The results were not infrequently quite pronounced, and consisted in the production of violent coughing, which at length might become so uncontrollable as to require the relinquishment of work and absence from further attention to the patient at the time on the part of those affected. It had been asserted that this was due to the liberation, in the presence of heat, of chlorine gas from the chloroform; but this had been disproved by some recent experiments, and it was now stated that the results were due to the formation of a new product called phosgene gas. The inhalation of such an irritant could not fail to be detrimental to the anæsthetized patient.

The author of the paper was confirmed in his observations and conclusions by the experiences of several surgeons present.

The New French Cystoscope.—Dr. Willy Meyer showed a new French cystoscope that had recently been put on the market and that was designed by Boisseau du Rother, of Paris. Dr. Meyer prefaced his demonstration of the new instrument by a few remarks on the comparative merits of it and that known as the Leiter instrument. He said that the French cystoscope was nothing more than an elongated Leiter instrument, adapted to use for the inspection of the fundus of the bladder. In comparison with the latter, the striking features of the French cystoscope were a longer beak, a longer telescope, and an additional combination of pipes for irrigating the bladder. He did not think that the medical profession should accept the new instrument as presenting advantages in every way superior to those of instruments now in use. The special merits of the Boisseau du Rother instrument were, so far as the speaker had been able to find, as follows: 1. Its additional six inches in length obviated the necessity of the observer's face being in such disagreeable propinquity to the patient's genitals. 2. The area brought under observation was larger, and in the same upright position as the eyes would normally see it. 3. The added pipes enabled the operator to wash out the bladder at the beginning of the examination and to keep it irrigated while under observation. 4. The larger of these additional pipes could be made use of for the passage of instruments of the finest caliber for catheterism of the ureters. Among the drawbacks to the French instrument might be enumerated the following: 1. The whole surface of the bladder could not be inspected with the new cystoscope, which was, besides, somewhat unwieldy and not so easily handled as Nitze's or Leiter's, at least the examination could not be made of the entire area without the observer assuming the most constrained posture. 2. The additional length of the beak enhanced the liability of the bladder wall being touched and a burning sensation being given to the patient if he was not under an anæsthetic. 3. The tube intended for the passage of a catheter was so small that no catheter that had been so far available to the speaker would pass it. 4. The arrangements for making and breaking the electric current were not so perfect as in the other instruments, and the parts generally were not so amenable to cleansing. Until the shortcomings indicated were remedied in the Rother cystoscope, he thought that an operator, to do thorough work, would always require at hand for use one of the other cystoscopes, especially that of Nitze. The speaker then gave a practical demonstration of the precision with which a fine bougie or catheter could be passed into the ureters with the aid of the new French cystoscope.

SECTION IN ORTHOPÆDIC SURGERY.

Meeting of February 20, 1891.

Dr. Samuel Ketch in the Chair.

Genu Valgum and Tenosynovitis of the Toes.—Dr. Royal Whitman exhibited a case of unusually severe genu valgum and one of tenosynovitis of the long extensors of the toes. As, in the latter case, there was a tuberculous osteitis of the elbow, he considered that the lesion of the foot had a similar origin.

Dr. V. P. Gibney said that in a somewhat similar case, where the tuberculous nature of the lesion was proved by microscopical examination, he had moved the tendons freely, divided the annular ligament, and scraped away the diseased tissue.

Recurrent Dislocation of the Ulna.—Dr. John Ridlon exhibited a man, twenty-one years of age, who, as a result of an injury thirteen years before, was unable to supinate the wrist without causing a backward dislocation of the ulna. The apparatus which he had applied consisted of a leather case with a metal side, which had been fitted so as to accurately grasp the ulna, by molding it over a plaster cast. He expected that after the patient had worn this apparatus constantly for two or three years the dislocation would be cured.

Excision of the Knee Joint.—Dr. A. M. Phelps read a paper upon this subject.

Dr. A. B. Judson recognized the conservatism of the treatment advocated by Dr. Phelps, whose paper had clearly demonstrated the superiority of excision over amputation; but he thought the time had come for the better conservatism that was found in purely orthopædic treatment. Many patients would have made good recoveries if excision had given place to mechanical treatment, which put an operation out of the question when employed from the beginning of the affection.

Dr. Thomas H. Manley raised the question as to whether a more useful limb would not often result from placing it in a more or less flexed position.

Dr. W. R. Townsend said that the worst results he had seen from excision of the knee had been in cases where the straight position of the limb had not been maintained. Such a faulty position was constantly aggravated by the weight of the body.

Dr. Ridlon said that, in spite of the excellent results reported in the paper, he was still of the opinion that this operation upon growing children was wholly unjustifiable, and he was convinced that cases which could not be cured mechanically—viz., those in which there was an extensive osteomyelitis—were beyond the reach of anything short of amputation. The exceptionally good results obtained by the author and a few other surgeons did not argue against the soundness of the general teaching that this operation should not be advised for such children.

The Chairman remarked that, as a rule, orthopædic surgeons were confronted with knee-joint disease in growing children, and the cases mentioned in the paper must have been instances of neglect or of improper treatment.

Dr. Phelps said that it might be that the cases had not been properly treated, but some of them had been under the care of good orthopædic surgeons, and he had himself treated some of them; but he must admit that he could not cure many of these cases by mechanical means. He had not yet had an opportunity of dissecting the parts and actually seeing the organized blood-clot, but when a thin shell of bone after an operation became strong enough to sustain the weight of a hundred and eighty pounds or more, he thought it reasonable to believe that this great increase in strength was due to something more than mere blood-clot. It was true that the majority of the patients mentioned in his paper were adults, but many of the operations had been performed upon children under twelve years of age, and some of his best results had been in those between the ages of ten and fourteen years. He urged the adoption of this operation in children not under ten years of age who were suffering from extensive bone disease, and he believed that the results so obtained were quicker and better, and often saved the patients from amputation. A perusal of German literature would show that his results were not exceptional, but were similar to those obtained by a number of foreign operators.

Laminectomy for Pott's Disease.—Dr. Samuel Lloyd read a paper on this subject. In introducing it, he said that he took exception to the terms in common use in speaking of the removal of the posterior arches of the vertebræ, and especially to laminectomy, which was a hybrid term, made up of a Latin and a Greek word. He proposed to coin a new word, made from the Greek word meaning a lamina or plate, and another Greek word meaning to remove or cut away. He had collected the histories of thirty-nine cases of operation for Pott's disease.

In cases where abscesses were present he said it was a comparatively safe procedure to explore the bodies of the vertebræ on their anterior surface, because the approach to the diseased foci was rendered easy by the abscess tract, which had already pushed the intervening structures out of the way; and in these cases he advocated exploring the cavity with a view to ascertaining the situation of the bony disease and eradicating it if possible. The cases he had tabulated showed that the mortality in cases of laminectomy, as in ordinary cases of Pott's disease, was greater in adults than in children—57 per cent. in the former and 10 per cent. in the latter. In only twenty-seven cases was the region involved in the disease stated, and of these, twenty-three were dorsal, which, while not affording sufficient data for an authoritative statement of the effect of the region upon the mortality, still bore out the statement made in a former paper on Laminectomy for Traumatism of the Spine, that the higher the lesion the greater the mortality. The time of the operation after the onset of the disease varied from four months to seven years. These statistics did not show that any time was better than another for operation, and it was impossible to settle definitely upon any time when, as a rule, an operation should be undertaken. No surgeon would interfere in any case in which there were other tubercular affections of any extent complicating the cord lesion. Macewen's statement that marked hectic was a contra-indication to operation he considered fallacious. The operation should not be undertaken when there was any chance of recovery, but cases where the chances of recovery without operation were very slight, where continued mechanical treatment yielded little or no result, and where at any moment an extension of the lesion might render the patient hopeless, if it did not destroy his life, had better be operated upon. In cases which showed only progression of the disease, in spite of all care, and where an arrested degeneration was set up again, threatening the integrity of the cord, an operation should be undertaken early. In performing the operation, he preferred to make a single incision, cutting the spines away from the arch and leaving them attached to one of the flaps, because this method occupied less time, caused less hæmorrhage, and did not interfere with the interspinous ligaments.

Fibrosarcoma of the Foot.—Dr. Gibney presented a foot that had been removed a few days before from a lady, twenty-eight years of age, who, as a result of bruising the foot against a twig, had suffered pain in the sole for seven years. She had been treated by various appliances and once by incision, but with negative result. When she came under the speaker's care, eighteen months ago, there was aggravated flat-foot, with a fullness in the sole, which was thought to be due to the cicatricial tissue following the exploratory incision. Apparatus gave only temporary relief, and, after consultation with Dr. W. T. Bull, an incision was made along the inner side of the foot, and considerable gelatinous material and some broken-down bone from the vicinity of the cuboid were evacuated. Three well-known pathologists in New York examined this tissue, and pronounced the case one of fibro-sarcoma. Subsequently more of the tissue was sent to one of these gentlemen, who, from the microscopical appearances of the granulation tissue, pronounced it tuberculosis. On laying the foot open, the bone was found to be fairly healthy. The case was of interest on account of its long duration and the pathological findings.

Dr. Gibney also referred to a case of long-standing hip-joint disease occurring in a girl, twelve years of age, who, as a result of the profuse suppuration, became affected with amyloid disease of the liver, spleen, and kidneys. As the pathologist, Dr. Tuttle, had found in the cheesy matter removed from a small excavation in one of the acetabula almost a pure culture of tubercle bacilli, he thought it might be interesting to the members to examine the specimen under the microscope.

Book Notices.

Clinical Diagnosis; the Bacteriological, Chemical, and Microscopical Evidence of Disease. By Dr. Rudolf v. Jaksch, Professor of Special Pathology and Therapeutics, etc., in the German University of Prague. Translated from the Second

German Edition by James Cagney, M. A., M. D., etc. With an Appendix by William Stirling, M. D., Sc. D., etc. With Numerous Illustrations (partly in Colors). London: Charles Griffin and Company; Philadelphia: J. B. Lippincott Company, 1890. Pp. xxiv–398. [Price, $6.50.]

This is a concise, clear treatise on the macroscopical, microscopical, and chemical characteristics of the normal and pathological fluids, secretions, excretions and parasites, of the human body, together with an enumeration of the different methods in use for their recognition and analysis. The highly scientific method adopted by the author of proceeding from a consideration of the simpler phenomena to that of the more highly complex, from such as accompany the normal state to those entailed by exceptional conditions, is eminently adapted to impress the reader with the absolute necessity of acquiring such technical skill as would enable him to make an accurate diagnosis of the pathogenesis of the various morbid conditions, and permit him to decide whether they were due to a contagious disease and its attendant microbe or the result of a poisoning from leucomaines generated either by the individual himself or by his various messmates.

Leçons du mardi à la Salpêtrière, Professeur Charcot, Policlinique, 1888–1889: Notes de cours de MM. Blin, Charcot, Henri Colin, Élèves du service. Paris: E. Lecrosnier & Babé, 1889. Pp. 579. [Publications du *Progrès médical.*]

Charcot's reputation as a teacher renders any comment upon the great value of these more or less impromptu lessons unnecessary. The harmonious relation between doctor, patient, and student is furthered by Charcot's colloquial and picturesque exposition, rendered eminently suggestive by illustrations and comparisons with subjects far and wide, of to-day or of yesterday, by his bringing to bear artistically upon his subject all that may lend to it a vivid coloring.

The Refraction of the Eye. A Manual for Students. By Gustavus Hartridge, F. R. C. S., Consulting Ophthalmic Surgeon to St. Bartholomew's Hospital, Chatham, etc. With Ninety-eight Illustrations. Fourth edition. Philadelphia: P. Blakiston, Son, & Co., 1890. Pp. xv–249.

The appearance of the fourth edition of a scientific work speaks so eloquently for its intrinsic worth that the duty of the reviewer becomes purely nominal. We should like, however, to call attention to the introduction of such new matter as was required by the onward progress of science since the appearance of the first edition in 1884, and to mention also the presence of additional wood-cuts which will facilitate the efforts of students to diagnosticate errors of refraction and to prescribe suitable glasses for their correction. The better comprehension of the subject is still further obtained by a preliminary chapter on optics.

Text-book of Medical Chemistry. For Medical and Pharmaceutical Students and Practitioners. By Elias H. Bartley, B. S., M. D., Professor of Chemistry and Toxicology, and Lecturer on Diseases of Children in Long Island College Hospital, etc. Second edition. Revised and enlarged. With Sixty-two Illustrations. Philadelphia: P. Blakiston, Son, & Co., 1890. Pp. xi–9 to 423.

The second edition of this well-known work contains such changes and additions as the rapid advance in chemistry has rendered necessary. Many of these changes are laudable, but we hardly believe that the grouping of the inorganic elements according to the *periodic law* of Newlands and Mendelejeff is judicious in a text-book the limits of which prevent a due consideration of the reasons for thus preferring a new classification to one upon which all systems of qualitative and quantitative analysis are founded. For the moment, at least, the student of the new system who would pursue his chemical researches practically would be like a rudderless ship laden with much good merchandise.

The Essentials of Medical Chemistry and Urinalysis. By Sam E. Woody, A. M., M. D., Professor of Chemistry and Public Hygiene, and Clinical Lecturer on Diseases of Children, in the Kentucky School of Medicine. Third edition, revised, enlarged, and illustrated. Philadelphia: P. Blakiston, Son, & Co., 1890. Pp. viii–9 to 157.

In the comparatively few pages of this book the author has succeeded in introducing as much subject-matter as is generally found in books of many times its size. Not only do we find a description of the chemical elements, of their combinations and reactions, but also the not unimportant mention of their therapeutical nomenclature and uses and their toxicological effects and antidotes, while the chapter on urinary analysis leaves little to be desired in the way of brevity and clearness of exposition.

Household Hygiene. By Mary Taylor Bissell, M. D. New York: N. D. C. Hodges, 1890.

The contents of this little book are sound and practical to the last degree. The chapters are ten in number, on the site and the soil, hygiene in architecture, the city house and plumbing, the country house, ventilation and heating, our water supply, kitchen and table hygiene, sanitary furniture, the sick-room, and roof gardens. The style is clear and direct, and the suggestions are easily grasped and put into practice by intelligent housekeepers and home-keepers, who are the natural guardians of family health. One idea throughout the book is the true one, that, if decoration and household hangings, ornament and coloring, are of the kind that can be thoroughly cleansed without impairing or destroying them, they are of the kind that meet the requirements of harmony and proportion. Distributed far and near as a tract, Dr. Bissell's little book might bring about many needed reforms in American homes. There is nothing in it that could be left out, and there is in it more than the mere words themselves. It fulfills the classic test of a good book; it puts the reader in a working mood.

De l'idée de persécution dans la mélancolie et le délire des persécutions. Par E. E. E. Blin, interne des asiles de la Seine, ancien externe médaillé des hôpitaux et de la Salpêtrière, etc. Paris: Bureaux du *Progrès médical*, 1890. Pp. 109.

This book is a study of the pathogenesis of persecutory delusions, their evolution into perfect form, their relation to melancholiacs, paranoiacs, and degenerates, and facts bearing upon prognosis and diagnosis. It is illustrated by the citation of some thirty-seven well-selected cases, mostly observed in the asylum of Villejuif.

BOOKS AND PAMPHLETS RECEIVED.

Plain Talks on Electricity and Batteries, with Therapeutic Index. For General Practitioners and Students of Medicine. By Horatio R. Bigelow, M. D., etc. Philadelphia: P. Blakiston, Son, & Co., 1891. Pp. 85.

Taking Cold. By Francke H. Bosworth, M. D., Professor of Diseases of the Throat in the Bellevue Hospital Medical College of New York. Detroit: George S. Davis, 1891. Pp. viii–69. [Price, 25c.]

Electricity. Its Application in Medicine and Surgery. A Brief and Practical Exposition of Modern Scientific Electro-therapeutics. By Wellington Adams, M. D., etc. Detroit: George S. Davis, 1891. Two vols., pp. 113, 129. [Price, 50c.]

Twenty-seventh Report of the Trustees of the City Hospital, Boston, 1890.

Hemiatrophia Linguæ of Extracranial Origin. By H. S. Birkett, M. D. [Reprinted from the *Montreal Medical Journal.*]

Miscellany.

The American Association of Andrology and Syphilology.—The fifth meeting of this association will take place at the Shoreham Hotel, Washington, on September 22, 23, 24, and 25, 1891, in connection with the Congress of American Physicians and Surgeons. Daily sessions will be held from 9 A. M. to 1 P. M. The following titles are announced in the preliminary programme: A Review of the Evidence of the Transmission of Syphilis to the Third Generation, by Dr. Abner Post, of Boston; The Relation of Syphilis to Stricture of the Rectum, by Dr. R. W. Taylor, of New York; The Surgery of the Ureter, by Dr. A. T. Cabot, of Boston; Some Experience with Suprapubic and Perineal Drainage, Temporary and Permanent, in Vesical Disease, by Dr. Edward L. Keyes, of New York; Some Cases illustrating Urinary Retention from Unusual Causes, by Dr. Francis S. Watson, of Boston; On the Radical Cure of Urethral Stricture by Restoration of the Mucous Membrane to the Normal Condition, by Dr. John P. B. Bryson, of St. Louis; Observations upon the Syphilitic Cachexia, by Dr. J. Blake White, of New York; An Obscure Case of Chronic Non-specific Urethritis of Sixteen Years' Standing, by Dr. George E. Brewer, of New York; New Methods for the Treatment of Urethral Disease effected by the Use of the Speculum, by Dr. F. Tilden Brown, of New York; Rupture of the Bladder, by Dr. A. T. Cabot, of Boston; Encysted Stone complicated with Growths of the Bladder, by Dr. C. H. Mastin, of Mobile; A Short Note on a Case of Urinary Tuberculosis treated by the (Koch) Subcutaneous Method, by Dr. Edward L. Keyes, of New York; On the Use of Salicylic Acid in the Treatment of Certain Forms of Cystitis, by Dr. John P. Bryson, of St. Louis; The Dry Poultice in the Treatment of Epididymitis, by Dr. George E. Brewer, of New York; Exhibition of an Antiseptic Syringe for Hypodermic Medication, by Dr. J. Blake White, of New York; On the Occurrence of Nephritis in Early Syphilis, by Dr. J. A. Fordyce, of New York.

The Annual Meeting of the Michigan State Board of Health was held at the Capitol on April 14th. Professor Fall, Dr. Avery, Dr. Hazlewood, Dr. Vaughan, and Dr. Baker were present. Dr. Avery was re-elected president. Dr. Vaughan reported that, at the State Laboratory of Hygiene, he had made analyses of all the different kinds of baking powder found in the market, also of a hundred and twelve samples of water from different parts of the State, and that he was ready to report the results, also those of his researches on typhoid fever. Dr. Baker reported that he had worked out the cause of influenza. He said its greatly increased prevalence during the last three months was alarming because so many other diseases followed it and increased after it increased. The diseases which so increased were consumption, pneumonia, cerebro-spinal meningitis, rheumatism, osteomyelitis, etc. Influenza seemed to bring in its train all these most important diseases. Dr. Baker explained the causation of influenza. He stated that the germs of influenza were generally at all times present, and the germs of pneumonia, tuberculosis, and the other specific diseases were somewhat widely disseminated, but that there must be certain coincident meteorological conditions to irritate the throat and air-passages sufficiently to let the germs gain an entrance to the body. These meteorological conditions in this instance were the excessive prevalence of north and northeast winds and the excessive amount of ozone during the past three months. The prevention of influenza and of the coincident rise in the other more dangerous diseases had not been possible because of ignorance of the causes. Now the causes were known, and the study of measures for prevention could begin.

The question of how to get more thorough disinfection after contagious diseases was brought up by Dr. Hazlewood, by a letter from Dr. Nicholson, of the Upper Peninsula, and by other correspondence of the office of the board. It seemed to be made plain that, if the bill now before the Legislature (Senate Bill 257, House Bill 640) became a law, making a small appropriation to enable the State board of health to send an inspector to the localities where he was most needed, to aid in the final disinfection after cases of dangerous diseases, the spread of those diseases could be very greatly lessened, and hundreds, and possibly thousands, of lives be saved in Michigan every year.

Neave's Food.—The *British Medical Journal* says of this preparation: "It has long been favorably regarded, by persons who have had experience of it in the nursery, as being an agreeable article of diet, and one well adapted for the use of children, aged people, and invalids It is also much used by mothers nursing and by invalids; and its constitution scientifically supports the favorable conclusions which have been attained by common experience."

To Contributors and Correspondents.—*The attention of all who purpose favoring us with communications is respectfully called to the following:*

Authors of articles intended for publication under the head of "original contributions" are respectfully informed that, in accepting such articles, we always do so with the understanding that the following conditions are to be observed: (1) when a manuscript is sent to this journal, a similar manuscript or any abstract thereof must not be or have been sent to any other periodical, unless we are specially notified of the fact at the time the article is sent to us; (2) accepted articles are subject to the customary rules of editorial revision, and will be published as promptly as our other engagements will admit of—we can not engage to publish an article in any specified issue; (3) any conditions which an author wishes complied with must be distinctly stated in a communication accompanying the manuscript, and no new conditions can be considered after the manuscript has been put into the type-setters' hands. We are often constrained to decline articles which, although they may be creditable to their authors, are not suitable for publication in this journal, either because they are too long, or are loaded with tabular matter or prolix histories of cases, or deal with subjects of little interest to the medical profession at large. We can not enter into any correspondence concerning our reasons for declining an article.

All letters, whether intended for publication or not, must contain the writer's name and address, not necessarily for publication. No attention will be paid to anonymous communications. Hereafter, correspondents asking for information that we are capable of giving, and that can properly be given in this journal, will be answered by number, a private communication being previously sent to each correspondent informing him under what number the answer to his note is to be looked for. All communications not intended for publication under the author's name are treated as strictly confidential. We can not give advice to laymen as to particular cases or recommend individual practitioners.

Secretaries of medical societies will confer a favor by keeping us informed of the dates of their societies' regular meetings. Brief notifications of matters that are expected to come up at particular meetings will be inserted when they are received in time.

Newspapers and other publications containing matter which the person sending them desires to bring to our notice should be marked. Members of the profession who send us information of matters of interest to our readers will be considered as doing them and us a favor, and, if the space at our command admits of it, we shall take pleasure in inserting the substance of such communications.

All communications intended for the editor should be addressed to him in care of the publishers.

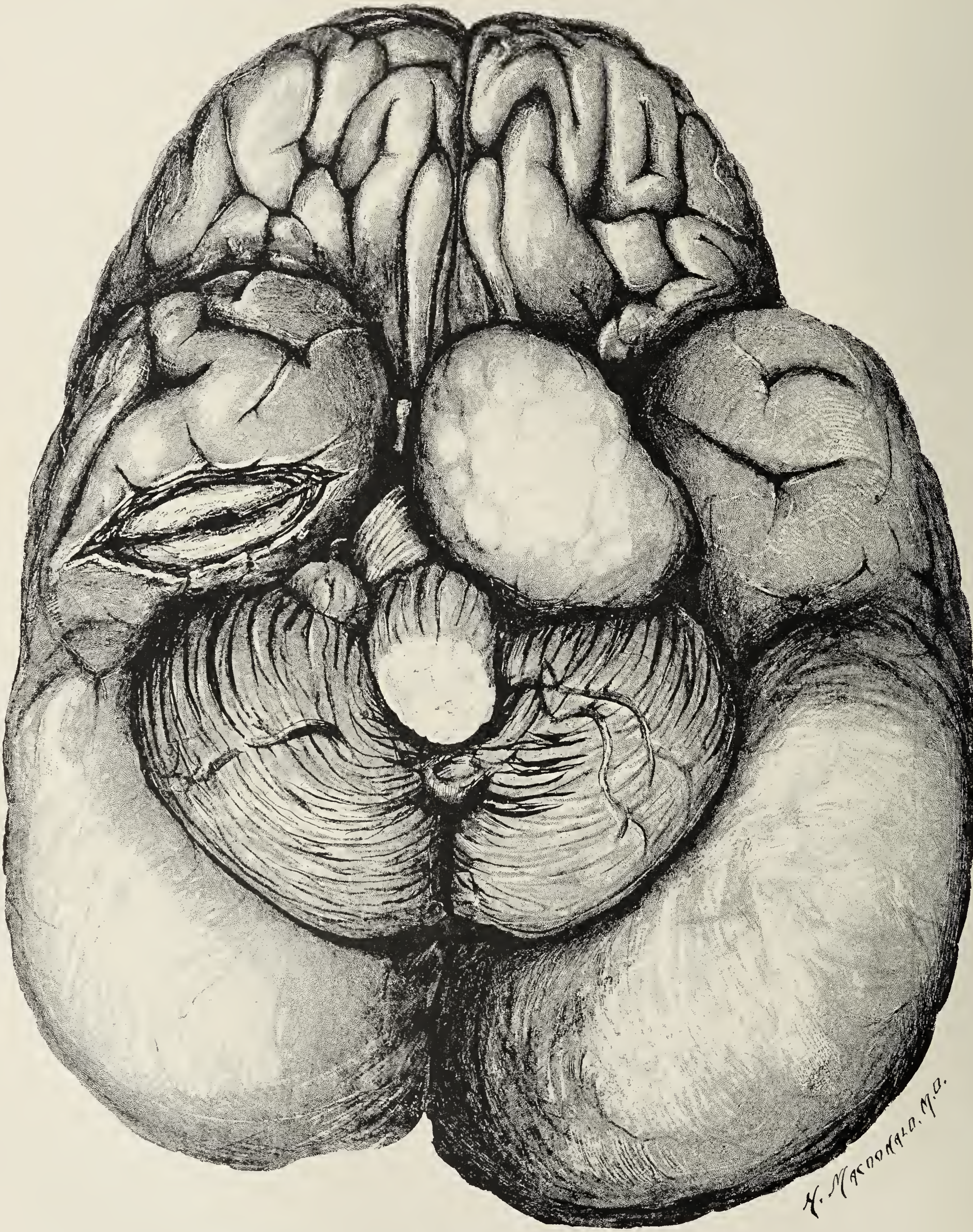
All communications relating to the business of the journal should be addressed to the publishers.

LIBRARY
OF THE
UNIVERSITY OF ILLINOIS

Plate I.

ILLUSTRATING ARTICLE BY DR. B. SACHS.

DRAWN FROM THE SPECIMENS BY DR. H. MACDONALD, AND REPRODUCED DIRECT.



Ventral aspect of brain, showing bilateral hydrocephalus, cysts, and tumor.

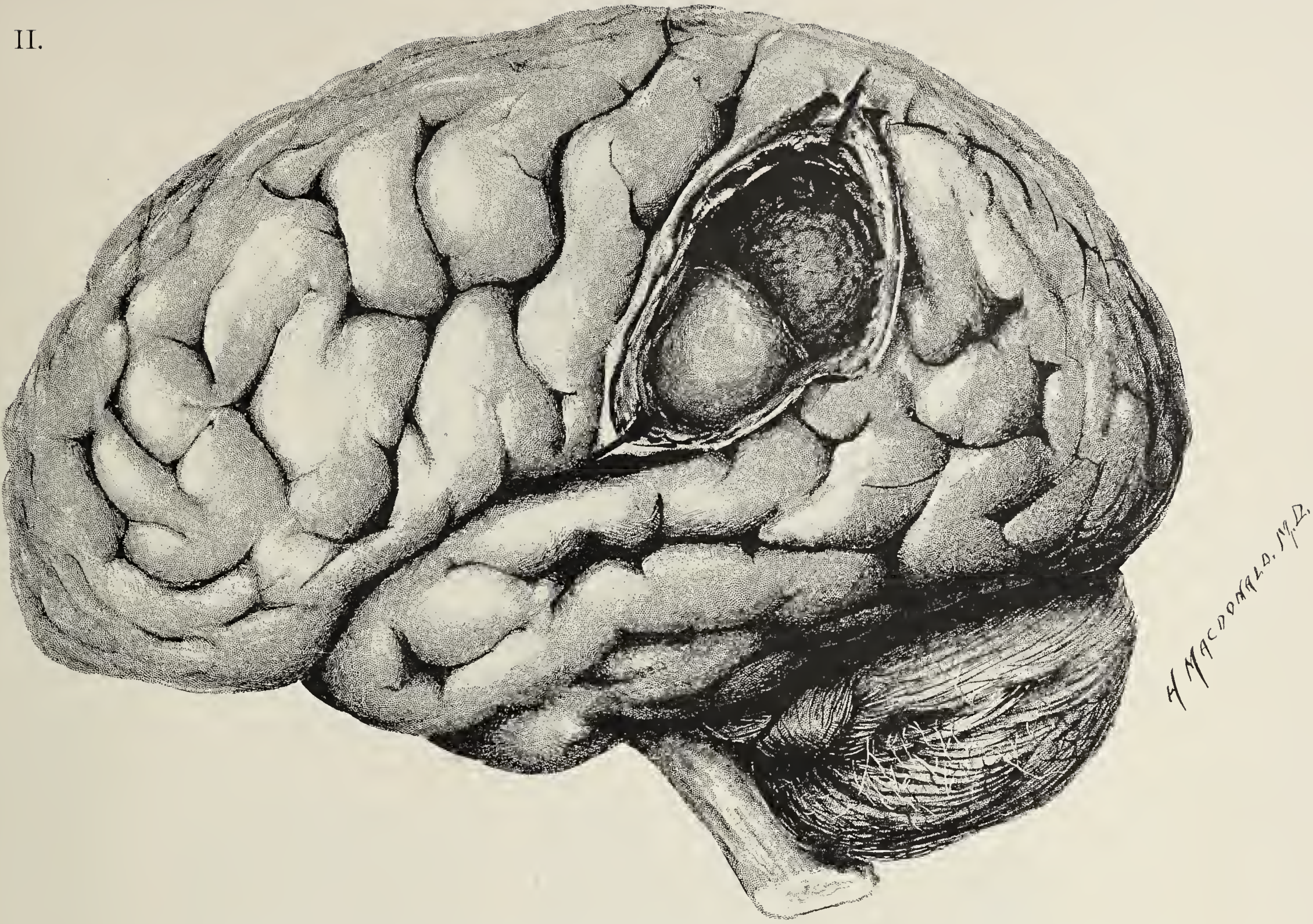


Fig. 1.—Showing position of cyst with portion of tumor. Roof of cyst has been laid open by dissection. The hydrocephalic enlargement is omitted to economize space.

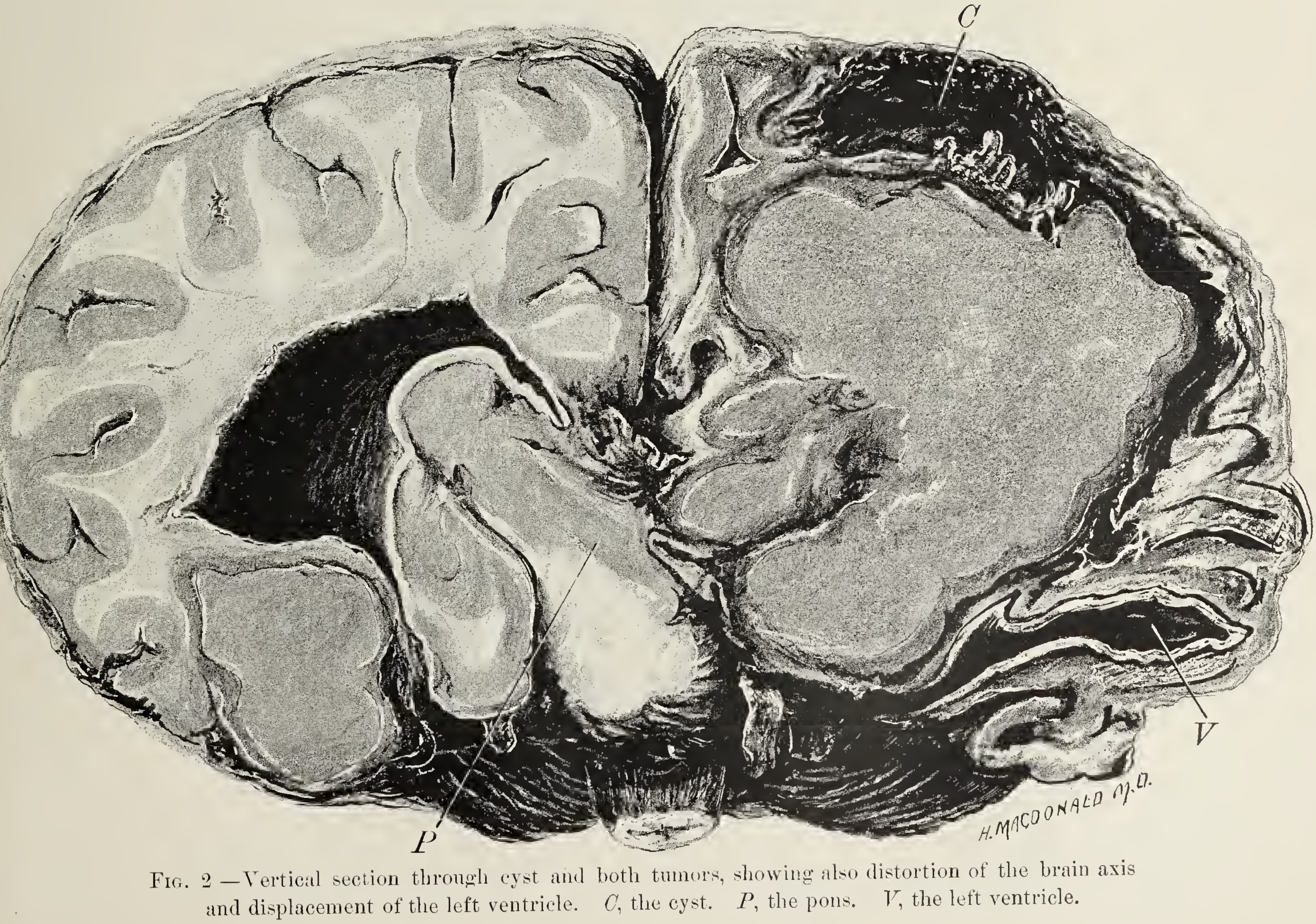


Fig. 2.—Vertical section through cyst and both tumors, showing also distortion of the brain axis and displacement of the left ventricle. *C*, the cyst. *P*, the pons. *V*, the left ventricle.

PLATE III.

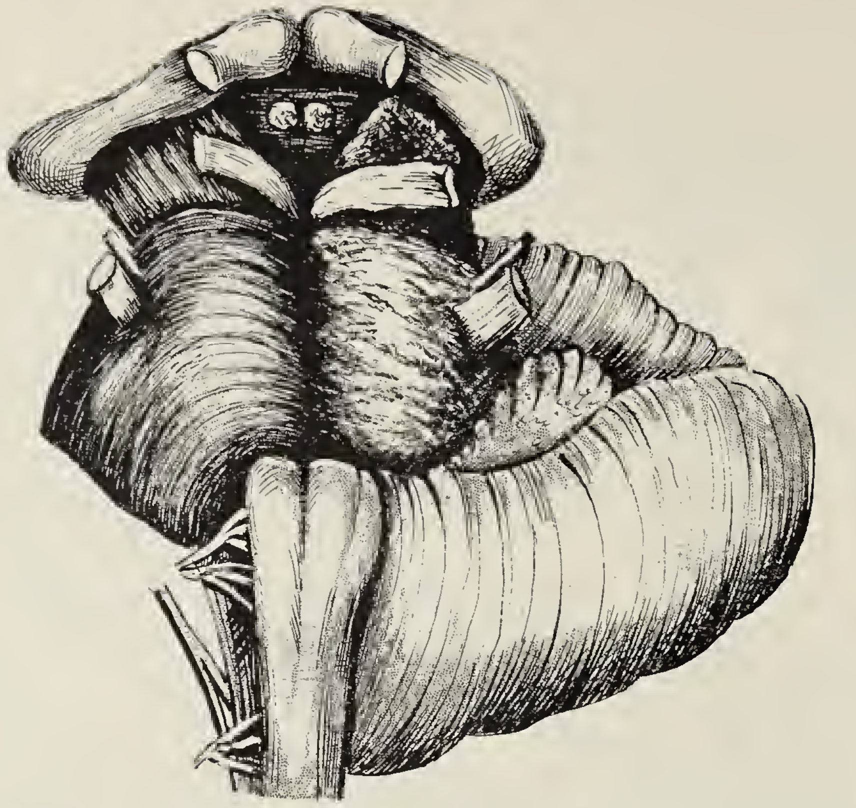


FIG. 1.—Brain axis, showing atrophy of the left crus and the left half of pons.

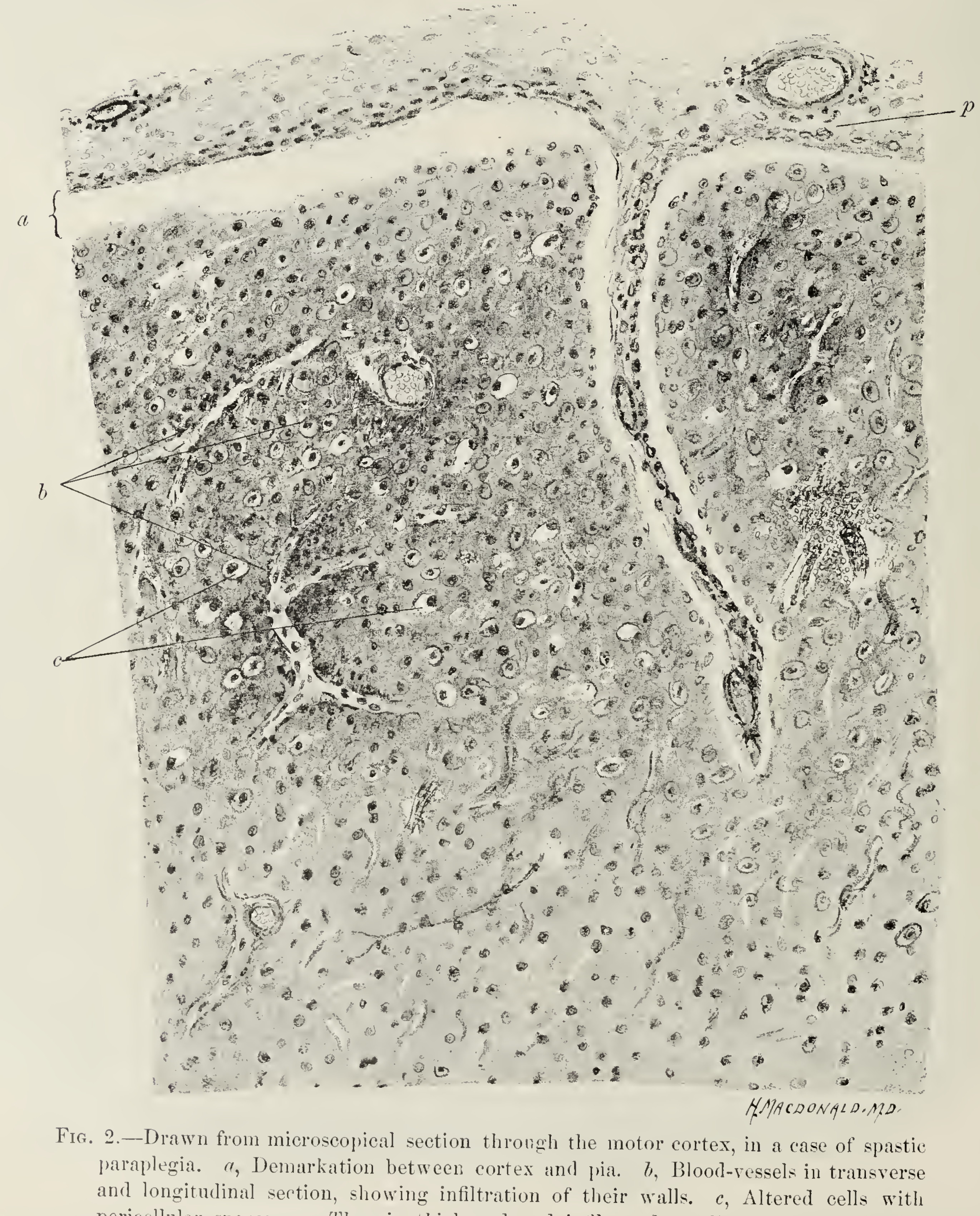


FIG. 2.—Drawn from microscopical section through the motor cortex, in a case of spastic paraplegia. *a*, Demarkation between cortex and pia. *b*, Blood-vessels in transverse and longitudinal section, showing infiltration of their walls. *c*, Altered cells with pericellular spaces. *p*, The pia, thickened and infiltrated, sending projection downward between two convolutions.

ILLUSTRATING ARTICLE BY DR. W. B. COLEY.

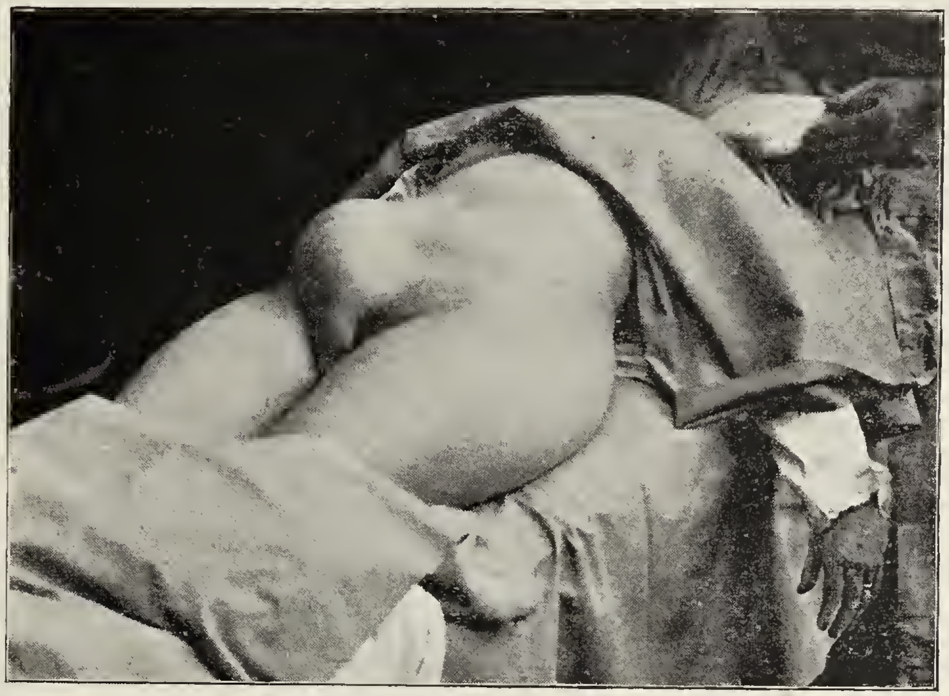


Fig. 1.

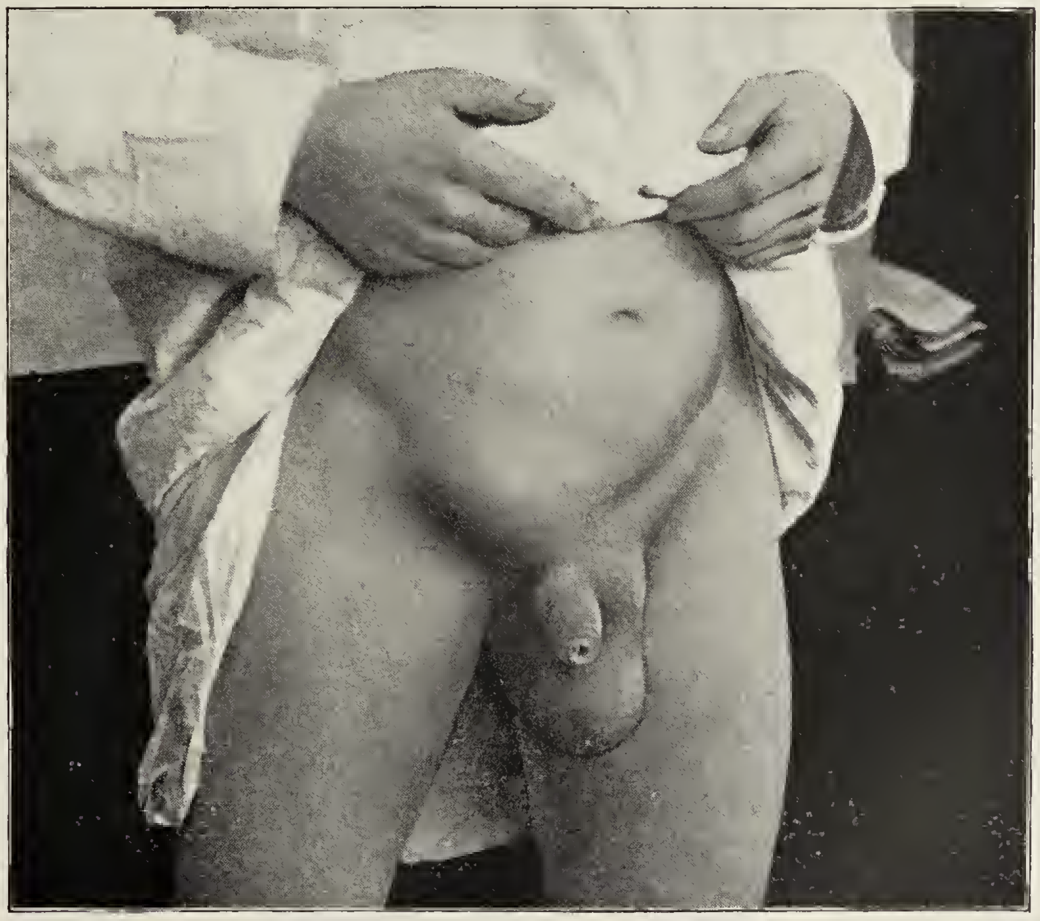


Fig. 2.

ILLUSTRATING ARTICLE BY DR. H. A. KELLY.

PLATE V.

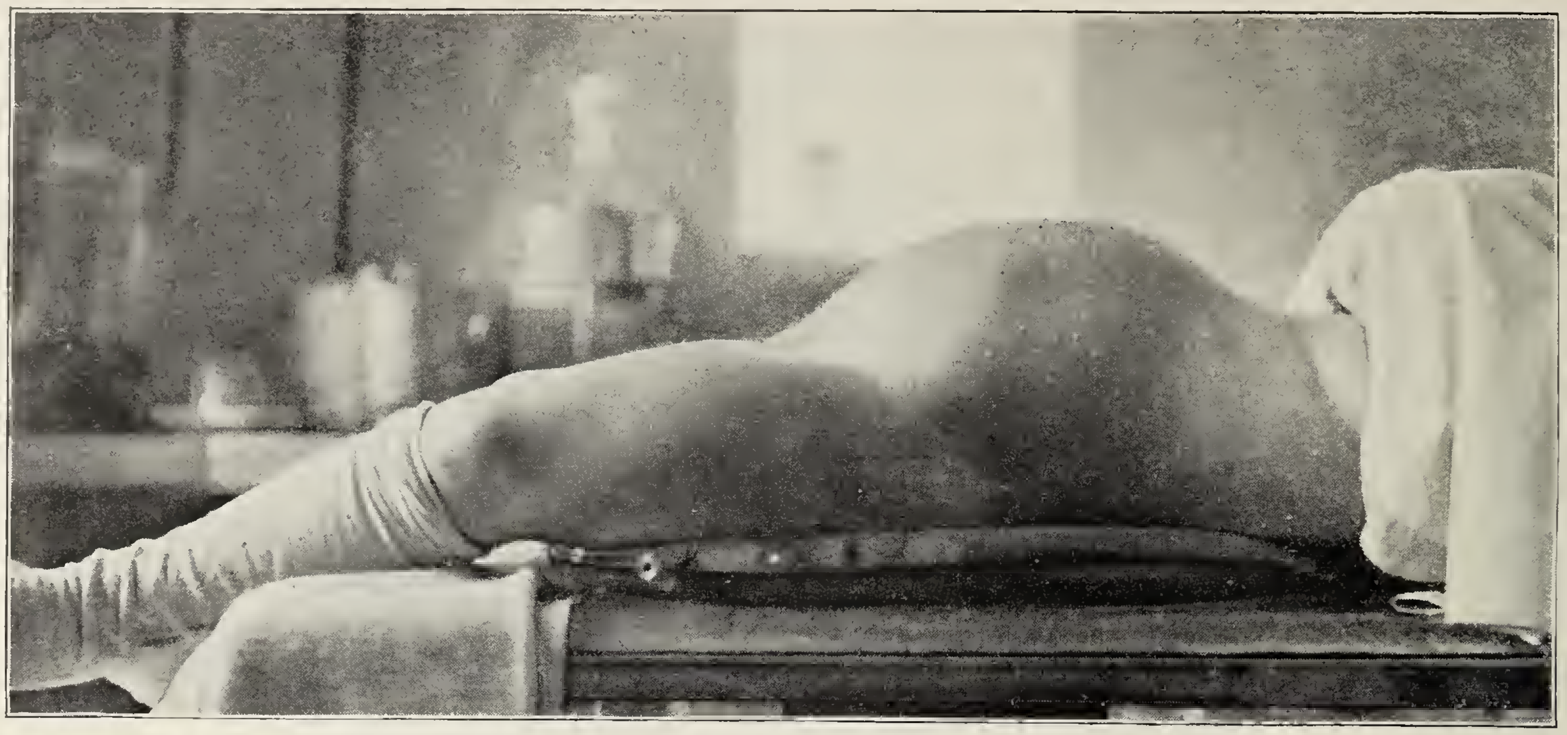


FIG. 4.

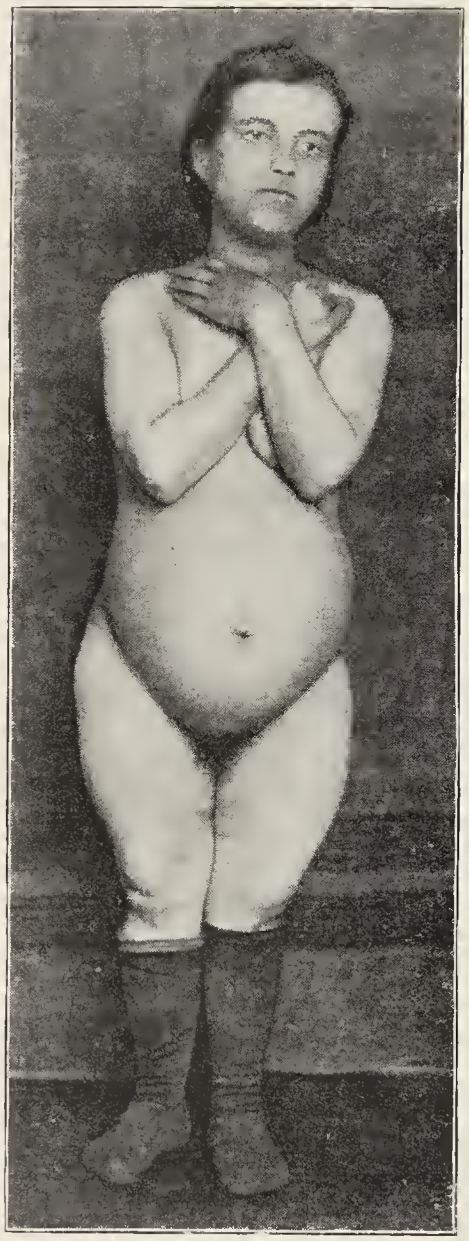


FIG. 1.

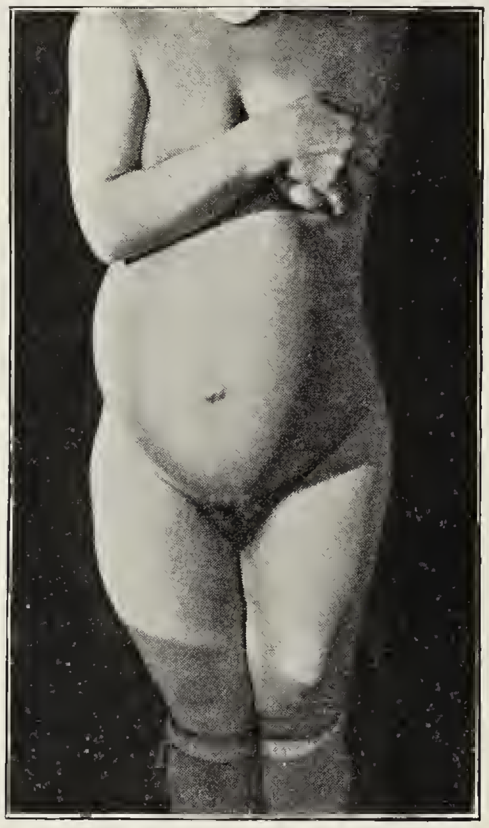


FIG. 2.

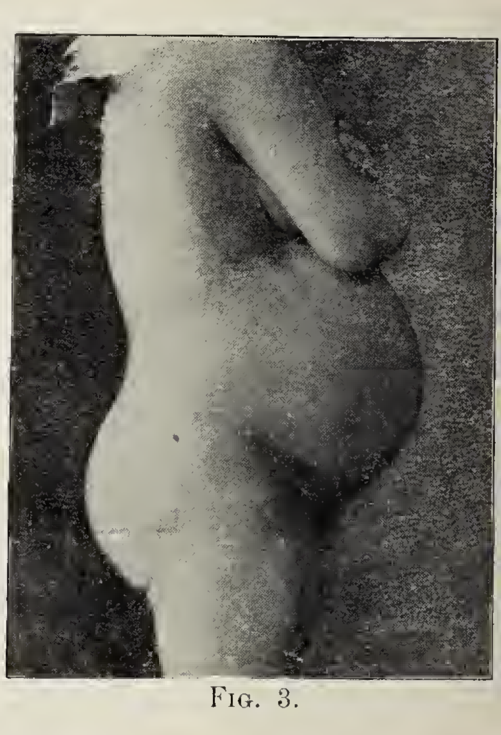


FIG. 3.

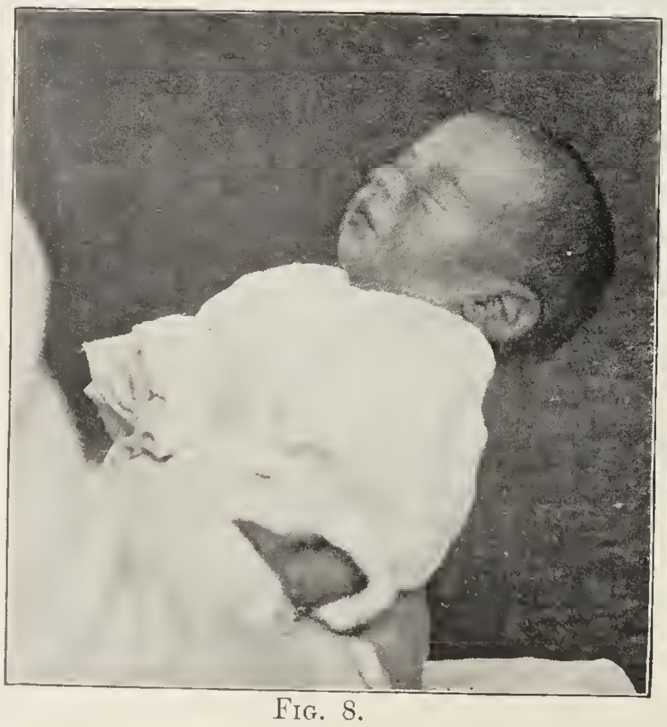


FIG. 8.

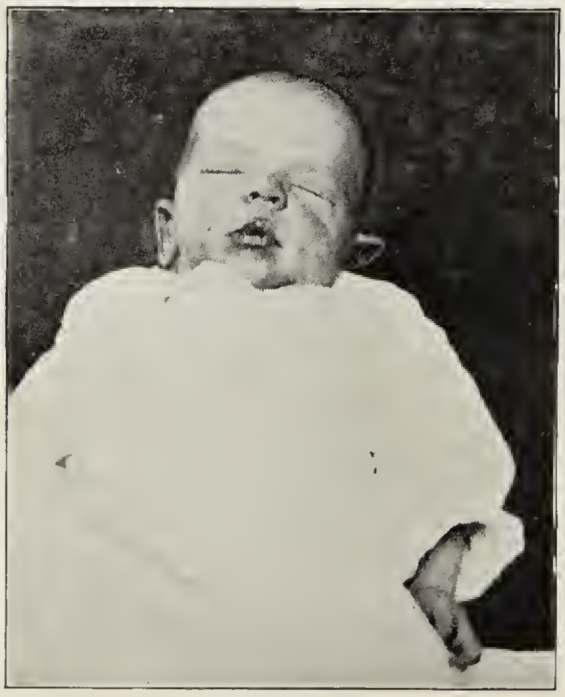


FIG. 9.

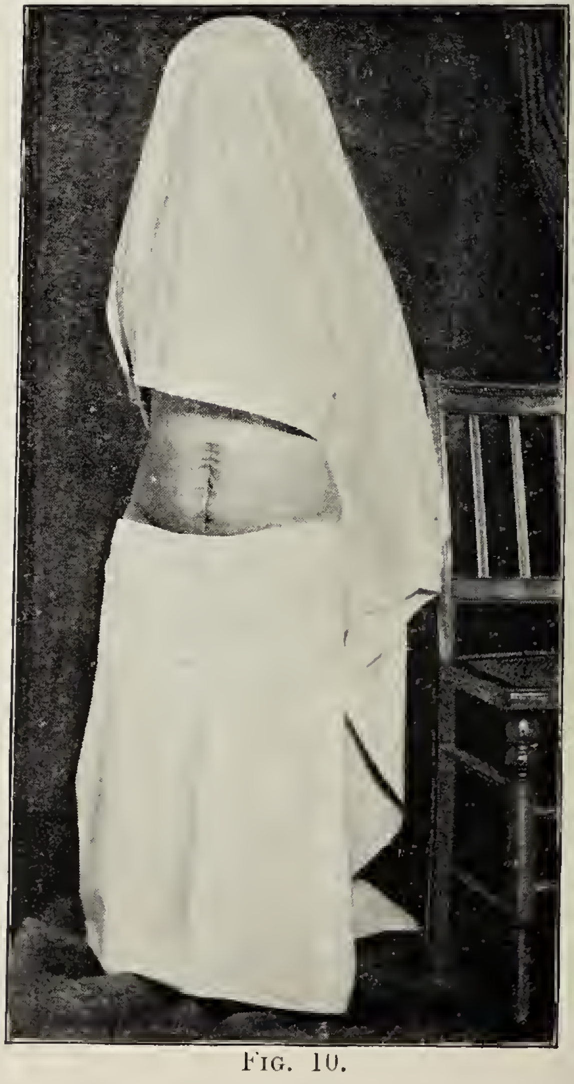


FIG. 10.

ILLUSTRATING ARTICLE BY DR. S. G. BURNETT.

LIBRARY
OF THE
UNIVERSITY OF ILLINOIS

Lectures and Addresses.

THE DIAGNOSIS OF INCIPIENT MELANCHOLIA.*

AN ABSTRACT OF A LECTURE DELIVERED BEFORE
THE CLASS OF THE KANSAS CITY MEDICAL COLLEGE

By S. GROVER BURNETT, A. M., M. D.,
KANSAS CITY, MO.,
LECTURER ON CLINICAL DISEASES OF THE NERVOUS SYSTEM
IN THE KANSAS CITY MEDICAL COLLEGE.

Reported by COLFAX SANDERSON.

Gentlemen: Our remarks during this meeting will be brought to bear principally upon illustrations which will tend to give us a comprehension of a group of symptoms leading us to a reliable diagnosis of that affection known as melancholia in its incipiency. The indications to be mentioned are not to be found in your text-books, but they are purely the results of clinical investigation. Before advancing with the subject, as students, we should understand the significance of the term melancholia. Meynert considers it as a symptomatic disease arising from trophic disturbances of the anterior lobes of the brain, that part looked upon as the seat of intelligence, and the changes taking place here are the reverse of those found in subjects suffering from mania.

In mania we have an exaggerated activity of both mind and body; the cortical cell functions are increased in activity till there is a liberation of inco-ordinated brain force, resulting in inco-ordination of ideas, accompanied by bodily actions varying in degree from slight perversion to extreme violence.

In melancholia there is a dejected and saddened appearance, with decreased activity of mind and body, slow and defective mental reflexes, and a delirium of self-reproach and persecution.

Meynert believes the symptoms found in melancholia are the result of an anæmic condition of the cerebral cortex. Clinically, we know that an abnormally anæmic condition of any organ means *starvation*, followed by a decrease and change in function, and, if continued long enough, the condition must become degenerative in character.

In mania there is an excessive activity of cortical functions, due to an abnormally hyperæmic condition. Clinically, we know that such a condition means increased stimulation and activity, resulting in decreased nutrition; and that, if continued for a sufficient length of time, it will give us a change in tissue structure pathologically known as of the proliferative type.

One of the latest classifications of melancholia is that given by Mendel where he divides it into three forms; but I see no superiority in it over the classification used by my friend and teacher, Dr. Landon Carter Gray.

In this, melancholia is divided into simple melancholia, melancholia agitata, melancholia attonita, and melancholia with stupor; clinically, this is simple and accurate, and those familiar with the disease, on entering the ward for such cases, will readily pick out the cases belonging to each classification. The ease with which we shall be able to make our diagnosis will depend upon our knowledge and the duration of the disease. The necessity of an early diagnosis in melancholia attonita and melancholia with stupor, from a standpoint of safety, is not so great as in the other two forms, and, in my experience, is not in many instances so difficult.

Simple melancholia and melancholia agitata are the forms that so frequently escape an accurate diagnosis in the early stage of the disease, and it is in these forms that we are to expect the safety of the patient, or those about him, to become endangered.

Too frequently melancholia is allowed to go on in its incipiency unrecognized as to the true nature of the affection present, but instead is diagnosticated as "neurasthenia," "nervous exhaustion," etc., a condition entirely foreign to the one that should not be overlooked, and with such a diagnosis the patient is treated in a like indefinite manner until the realization of the true nature of the disease is forced upon us through the medium of some tragic affair, either homicidal, suicidal, or both. This peculiar tendency of the disease renders its early recognition of the utmost importance.

Simple Melancholia.—Usually in this form of the disease we find it unattended by delusions, hallucinations, and illusions which are common in the other classifications. It is true there may be a tendency to their development, but they are rarely definite enough to be of diagnostic value. In the early part of this form of the affection the intellectual faculties are seemingly unimpaired, and, unless the examiner is an expert, it will be with no little difficulty that he will be able to recognize any pronounced defect in the memory and ability to reason; hence the importance of diagnostic symptoms at this period. While the indications to be brought out are not confined to the incipiency, it is at this time that their recognition will be of the greatest aid to us in simple melancholia and melancholia agitata. As to their significance in melancholia attonita and melancholia with stupor we shall speak later on.

The case I shall now present to you is of interest, and will illustrate to you the features to which I wish to call attention.

Mr. F. was born in Germany, is thirty-five years of age, a tinsmith by trade, and has been in this country a number of years. His mother died of phthisis pulmonalis; the father he knows nothing of, and he has no brothers or sisters. As you observe him, the most remarkable feature is his sad and depressed countenance. Here I would remark that his case has been looked upon as one of hyponchondria, and treated as such on account of this sadness and his intermingled fears. Now, there is a marked difference between simple sadness and melancholia. In the former there is a cause comprehensible to the individual, and he will seek to remove it. In the latter there is no apparent cause; there is some implication of the higher faculties, and the patient usually is indifferent to his condition, surroundings, and future progress.

On questioning this man, I find a remarkable exactness in his answers and he reasons fairly well, though there is dullness of his perceptions and mental reflexes, showing a degree of impairment of the intellectual faculties. He now has depressed fears, and imagines, when questioned closely, that he has committed some great sin, and, in order to be forgiven, in his judgment, it was necessary for him to desert his life-long Protestant Church and become a Catholic that he might go to confession and be pardoned; this he has done.

---

* See Plate VI.

By further investigation I find insomnia appearing as an early symptom. He tells me it was persistent and unremitting, and when he did sleep it was only to be tortured by horrifying and frightful dreams, and that the period of repose was only of short duration. At an early date he suffered from a pain in the back of the neck and head radiating over a region corresponding about to the attachment of the *ligamentum nuchæ*, and, owing to the nature and permanent situation of this symptom, I have given it the name of *nuchalalgia*. Ingrafted on these two symptoms given we have a melancholy tendency at first, which later on will become profound in true cases of melancholia. You will observe now we have three well defined symptoms, and to impress their value upon you I would suggest that you call them "three of a kind," for clinically I have found their recognition in incipient melancholia equal to "taking the trick" every time. Then remember them—namely, insomnia, nuchalalgia, and melancholia.

While my attention was first called to these points as being significant in the diagnosis of incipient melancholia as far back as the latter part of 1886, I have never made any use of them outside of my hospital and private practice until I now give them to you. Even now I do not think I am justified in giving them to you as being especially developed by myself, for my attention has been called to an article by Dr. Gray in the *Journal of Mental and Nervous Disease* for January, 1890, in which he has ably dealt with the same indications. The fact that the observations were made by us unknown to each other and that mine began in 1886 and Dr. Gray's, I think, in 1887, is worthy of consideration in substantiating the facts as being diagnostic features.

The term nuchalalgia, which I have given to the pain, the location of which has just been given and which is rather of a dull ache in character, I concluded was a significant though perhaps a clumsy term, as it not only describes the nature of the symptom, but also defines quite accurately its location. In some instances, it is true, I have found the pain radiating over a more extensive area, but, from a clinical deduction taken from a record of thirty cases in which the symptom was present, it occurs to me that the characteristic pain or ache is about limited to the area corresponding to the attachments of the *ligamentum nuchæ*. Dr. Gray calls this symptom "post-cervical ache." This is certainly significant, but as the ache, in my observation, was so rarely limited to the post-cervical region and so generally extended to the back of the head, the term seemed too limited for the indications present. However, it is not so much the name of the symptom to which I desire calling your attention as it is the recognition of this symptom, for, taking it in connection with other premonitory indications, such as a melancholic tendency, insomnia, and decrease in mental responses and perceptions, accompanied by retarded speech and actions, all of which are a departure from the normal or healthy state of the mind, I feel justified in saying to you you will find the recognition of nuchalalgia a potent factor in leading to the early diagnosis of the simple form of melancholia.

Dr. Gray says he has found "the characteristics of this peculiar melancholia, the causelessness, the indifference, the slow mental reflexes, with the occasional history of terrifying delusions and hallucinations, remarkably constant, and they are so significant that I have again and again based upon them a diagnosis which further examination has verified." I find this a clear expression of facts substantiated by clinical observation, and in this case here before you, by their presence, I have been able to obtain the fact that this is now the gentleman's second attack. When I asked him how long before this he had suffered from pain in the back of his head and neck, was unable to sleep, was depressed in spirits, did not care to live, and had fears of distrust, etc., he looked at me suspiciously and wanted to know how I had been informed of these facts, as he had never seen me before. After I assured him I was positive in the matter, he told me he had suffered from a similar attack some years ago, lasting about six months. This is why I was so anxious to show you this individual patient, as his presence is of more value to you than a large tabulation of cases.

Why we have spent so much time in speaking of simple melancholia is because of the frequency with which we find it overlooked in the incipient stage.

In melancholia agitata I have found our trio of symptoms present with remarkable exactness; but this form of the disease is not so difficult to diagnosticate, as a rule; the agitation of itself, in the chain of other symptoms (except where it develops late), is quite indicative. An interesting case illustrating this is the following:

Miss ——, aged twenty-three; admitted, I think, in April, 1887. She suffered from nuchalalgia, insomnia, depression, etc. I asked the brother, an intelligent young man, regarding a former attack, which, if I remember correctly, had occurred about three years previously, and, fearing such a recurrence, he desired early precautions. She remained under observation, and by the end of the second week hers became one of the severest cases of melancholia agitata that it has been my lot to observe where a good recovery followed without any apparent stigma remaining.

After she had been in the hospital two weeks her condition was such as to require the attention of two nurses to keep her clothing on her. She had hallucinations, delusions, and illusions of the most terrifying nature. Her mental reflexes were extremely morbid, and her indifference to herself and surroundings was such as to cause her to refuse food, resulting in the necessity of resorting to artificial feeding by means of the œsophageal tube for a period of about three or four weeks. She became frightfully emaciated before improvement began. During this time her insomnia was profound, and she never slept except when under the influence of hypnotics. Whenever there was a subsidence of her mental agitation sufficient to allow her to converse, she complained constantly of nuchalalgia or, according to Dr. Gray, the post-cervical ache. The photograph I present to you is an excellent representation of her as she appeared after convalescence. You will observe the degree of intelligence indicated, the firmness of expression (somewhat mature for a girl of twenty-three), and the complete absence of a melancholy countenance. So perfect a recovery from such a pronounced attack of melancholia without leaving the melancholy tracings is, in my experience, not common.

In six months from the onset of the attack she had recovered herself well, with the exception of the insomnia and nuchalalgia, both of which seemed to persist in a mild form. This is a feature I would have you remember, as I have found there is a tendency for it to last a long time, especially in simple and agitated melancholia. Notwithstanding their mild persistence, through solicitation, the patient was allowed to go home, but returned at the end of ten days with an increase in the severity of all her symptoms. She now remained about six weeks longer, when she was discharged apparently well, and, so far as I can learn, she has remained so to the present time.

Where there is this tendency to continued nuchalalgia in the convalescent stage (and it is common), I find it going hand in hand with insomnia—that is, there is apt to be a renewed loss of sleep, even though sleep has been apparently restored. Now, the question arises whether we are to hold the former responsible, in this instance, for the secondary development of the latter, as well as some mental symptoms—such as confusion and melancholia—which are indicative of a recurrence of the old trouble. If so, which seems rational, it is an important suggestion as to the treatment to be inaugurated.

Just as to the relation of this trio of symptoms to the remaining two classes—namely, melancholia attonita and melancholia with stupor—I am not sufficiently positive to state. That I have not been able to recognize them in these stages, as in the two first forms, I am free to confess, though in a few instances in the atonic form I have been able to recognize them at periods, but not with sufficient accuracy to be of diagnostic importance; the nuchalalgia was not constant, or, if it was constant, the condition of the patient was such as to render it obscure much of the time, and when it was present it did not maintain its usual severity and distressing characteristics, so common in the other forms. The stuporous condition of itself would seem sufficient to either render the patient insensible to the pain, or make it unrecognizable to the observer. Another feature that would suggest the absence of nuchalalgia in these two classes is the fact that the insomnia is not so persistent during the convalescent period. If you remember, I spoke of insomnia being almost invariably present during that period of simple and agitated melancholia. Then, while the weight of observation is against the presence of our symptoms here as being diagnostic, I shall withhold making any positive statement yet awhile, for I do not wish to place any stumbling-blocks in your way as students.

Insomnia is present in some degree in all the forms of melancholia, being more marked in simple melancholia and melancholia agitata than it is in melancholia attonita and melancholia with stupor; this would suggest again that the nuchalalgia was playing its part here in the rôle of production. I do not mean to assert that it is necessary at all times to have the nuchalalgia present in order that there may be insomnia, for I believe the delusions are often sufficient to keep patients awake. I have often, while making my rounds of the wards, at all hours of the night, had occasion to observe this condition, and it has not been uncommon to find these patients wide awake, with no indications of having been asleep.

Why are diagnostic symptoms important in incipient melancholia?

As I have said, it is in the early periods of the disease that it is so frequently improperly diagnosticated, and it is the inherent tendency of these very cases to become homicidal and suicidal. Such instances as these are the very ones that fill our daily newspapers with tragic sensationalism, and leave the general public wrapped in the mystic thought of some dastardly deed, which has simply been the outgrowth of a depressed and melancholy mind. Such an occurrence as this—which, I am sorry to say, is more common than you would imagine—is sufficient to point out to us the importance and usefulness of any symptom or group of symptoms that will lead to the recognition of a mental derangement which, sooner or later, will bring crime to the eyes of the public; humility, distress, and perhaps death in private life.

This propensity to take life may come upon them suddenly, or be gradual in its development. I recall the case of a large, heavy man who was determined to take his life. In conversation he would reason quite well on many things, but when alone he would be seized with a fit of depression and a desire to kill himself. Notwithstanding he was closely watched, he evaded his attendant and threw himself head first down a stone stairway. He reasoned that the weight of his body, falling from a height on his head, would produce death. Unfortunately for him, he struck his head a glancing blow, as he jumped hurriedly and at an angle, rather than perpendicularly. He suffered from concussion of the brain, but survived his injury. All cutting and sharp-pointed instruments had to be taken from him. Shortly after being able to leave his bed he again evaded the nurse, and this time he jumped from the railing of a high piazza, head first, and, as he had reasoned, his weight was sufficient to drive the cervical vertebræ into the base of the skull, producing instant death.

It is not uncommon to see melancholiacs whose real condition has not as yet been recognized awaiting some suggestion through which they may be able to carry out their morbid tendencies. A case of this kind was that of a gentleman who was noticed by his associates to be somewhat depressed. They thought to chide him a little and "drive away his blues," when he remarked he wished he was dead. One of the company carelessly remarked: "Go throw yourself over the stair railing." He deliberately carried out the suggestion before any of them had time to interfere. He fell through three floors on to a tile floor, killing himself, of course.

Suicidal and homicidal acts are frequent results of disappointed love affairs, and in these instances the real melancholia, which is undoubtedly secondary to the extreme disappointment and is responsible for the act, is often never recognized till it is too late.

Such occurrences are so common that it is useless to take up more time in illustrating this feature of melancholia, which is deserving of being considered an early diagnostic symptom, and is important both to the practitioner and to the neurologist. From a therapeutic and diagnostic standpoint it can not be otherwise than recognized as of great efficacy. To arrive at a proper diagnosis, based upon various forms of depression, is not always an easy matter, for we find depression presenting itself in a variety of forms, each of which is dissimilar in its origin. Mental depression may be the initiative symptom of any form of mental disease, and, again, it may exist independent of any mental affection whatever. Gastric disorders often give rise to marked depression, also hysteria, hypochondria, and conditions of sadness. A differential diagnosis here is important, but not always easy to make. If the depression exists in connection with nuchalalgia and insomnia, the rest is easy.

Therapy, of course, should be based on the diagnosis made; hence, with a history which is in keeping with the presence of insomnia, the ache, and depression, we should feel quite positive as to what we have to deal with, and should institute precautions of safety and therapeutic measures at once. By this early interference I believe much mental aggravation and distress may be saved; but, in order to do this, it is essential for the physician to be conversant with the case and to have *entire* control, so that his instructions will be carried out in full.

As students about to enter into your new field of duties, I trust you may give this matter due consideration, for my clinical experience has taught me the value of these symptoms given you, and, since I have learned that they are ardently advocated as *clinical facts* by one so able as Dr. Gray, I am proud to have the privilege of presenting them to you for the first time.

The Rhythmic Action of the Heart.—"From some researches made by Dr. Hamel, under the direction of Professor Kronecker, of Berne, on the circulation and the pulse, some new facts have been added to our knowledge on the subject. The vascular system of animals (frogs and crabs) was connected with an artificial heart, and it was then found that the more nearly the natural condition of intermittent pumping was imitated, the more blood could be driven through the vessels. When continuous pressure was employed, less blood was caused to circulate; but, on the other hand, there was a greater tendency to injury of the vessels, permitting exudation of fluid into the surrounding tissues, and thus causing œdema. It would appear that the elasticity of the arteries is kept up by the rhythmical dilatation they undergo. Henricius and Kronecker have also shown that the regular movements of respiration act as a kind of beneficial massage on the heart muscle, and it is suggested that the rhythmical movement of the pulse may act in the same way on the arterial walls."—*Lancet.*

The Dose of Salol for Infants.—*Lyon médical* states that the proper dose of salol for a child of six months is three grains, for one of two years six grains, and for one of five years fifteen grains. [These doses are certainly as large as they should be.—Ed.]—*Medical News.*

Original Communications.

MY FOURTH CÆSAREAN SECTION.*

By HOWARD A. KELLY, M.D.,
BALTIMORE,
PROFESSOR OF GYNÆCOLOGY IN THE JOHNS HOPKINS UNIVERSITY;
GYNÆCOLOGIST AND OBSTETRICIAN TO THE JOHNS HOPKINS HOSPITAL.

On the 16th of January of this year I performed my fourth successful conservative Cæsarean section.

The first three operations were performed in Philadelphia, and the first of all on the 17th of April, 1888; this was also the first successful conservative Cæsarean section in that city since 1837, a period of fifty-one years, when Professor William Gibson operated for the second time upon Mrs. Reybold.

The indication in this, my first case, *was absolute*, the pelvis being choked by cellulitic deposits, the results of two weeks of labor pains. The membranes had been ruptured for four days.

In spite of the fact that this was a most unfavorable case, the pulse at the time of operation being 142, the patient made an excellent recovery,† and has since been submitted to a second successful Cæsarean section by Dr. C. P. Noble, the surgeon of the Kensington Hospital for Women, April 27, 1890.

My second operation, on the other hand, was performed upon the *relative indication*, on May 30, 1888, in the Kensington Hospital for Women, Philadelphia. The conjugata vera was estimated at from 6·5 to 7 ctm.

This patient also made an excellent recovery,‡ and has since then been delivered by Dr. Noble, in the Kensington Hospital, after I had induced premature labor, on November 12, 1889.

The third operation was again upon the *absolute indication*, on May 10, 1889. This patient had a large bony tumor choking the pelvis.# Her largest pelvic diameter was 2 ctm. to the left, between the tumor and the brim of the pelvis.

All of these patients are living to-day in excellent health. The child of the first patient was feeble and died in a week with deep jaundice. The child of the second patient died in fourteen months and a half, in her second summer, in dentition. The third child is living to-day, a stout, healthy boy.

An Unpublished Philadelphia Case.—In a paper published in the *American Journal of Obstetrics* for March, 1890, I gave what I believed to be a complete list of all Cæsarean sections in Philadelphia up to the date of my first case. I have since, however, learned of an interesting case as yet unpublished, occurring on August 9, 1887, which I here add to complete the record. I quote from a friend's

---

* For other illustrations than those given in the text, see Plate V.

† *Vide* A Case of Cæsarean Section. *Medical News*, Philadelphia, September 22, 1888.

‡ A Consideration of Three Successful Cæsarean Sections in Philadelphia. *Amer. Jour. of Obstet.*, vol. xxiii, No. 3, 1890.

# *Vide* A Successful Cæsarean Section for a Large Bony Tumor Choking the Pelvis. *Med. and Surg. Reporter*, January 25, 1890.

note, for obvious reasons omitting names, with my personal guarantee for the veracity of the statements. This completes my list for Philadelphia up to April 17, 1888:

"MY DEAR DR. KELLY: In compliance with your request, I send you, from memory, the report of that 'case.' I have asked my friend for his dates, but his books are cast aside and he forgets to look them up. The following history then is made up from actual observation and subsequent information and is of little value scientifically: Mrs. T., a young woman about four feet ten inches in height, became pregnant and consulted Dr. C., who discovered a pelvis narrowed antero-posteriorly to such an extent that he advised the woman to go to a hospital and have the child removed. His advice was disregarded, and some time later one of the family met my old friend Dr. —— on the street and engaged him to take care of the young woman. No mention was made of Dr. C.'s examination and diagnosis, and, as the old doctor had attended in the husband's family, he asked no questions. He was finally hastily summoned to find the woman with waters broken, os dilated, and the head pressing down on the sacrum. She was so deformed that on a first examination the promontory was mistaken for a fœtal head. Things were left to nature for a while, and then I was called in and told to bring my instruments, about 9 P. M.

"I found her condition as described. The instruments could just be made to penetrate the strait, but could not be accurately adjusted, and an attempted delivery was a failure. Version was then tried, but we had to get Dr. G., who has a small arm and hand, to reach the feet. The hygienic surroundings were bad, and the nurses such inefficient ones as are commonly found among the neighbors and relations of the ordinary laborer.

"The head was crushed with a powerful pair of instruments and traction made on feet as well as on instruments applied to head, with no results except final separation of head from trunk. The woman was exhausted. Septic poisoning seemed certain if left in her present foul and much-handled condition, so section was decided upon, and with such antisepsis as could be secured (which was very poor) the abdomen was opened and the fœtal head, flattened laterally, extracted. The woman showed no evidence of peritonitis for twenty-four hours, when fever and tympany set in, and after fifty-eight hours from the operation the patient died.

"It was a case of an unfortunate concomitance of circumstances, and its principal value seems to me to be to emphasize the principle of examining women before labor, to ascertain conditions, and to instruct families, of all classes, as to preparation of the room for expected confinement. Very truly, T."

This frank letter needs no comment. Unfortunately, this case is not unique in the annals of gynæcology.

My fourth operation was the first in the Johns Hopkins Hospital, on January 16, 1891:

History.—Mrs. D. was brought to me late in December, 1890, by Dr. R. H. Smith, of Havre de Grace, Md. She was a dwarfed rhachitic, about thirty-five years of age, weighing one hundred and fifteen pounds, and 132·5 ctm. (52 inches) in height; the head was large and angular, with a prominent forehead; the body long and the legs short, with marked outward curvature of the thigh bones, giving the gait a distinctly waddling character (*vide* Plate V, Figs. 1, 2, and 3). The previous history was illumined by the fact that she had been paralyzed for a long time, beginning in her eighth or ninth year. She never grew any after she first began to walk again.

In July, 1887, she was delivered of her first child at term with extraordinary difficulty, even after the performance of craniotomy. On the 27th of August, 1888, she was again delivered, after a frightful labor, of a dead child. She was very ill after this labor. After her recovery she menstruated regularly until the last of April, 1890.

Present Condition.—Her nutrition is excellent. Her pulse under excitement and after rapid undressing is 138. The abdomen is equably distended by the large ovoid pregnant uterus, most prominent in the median line, extending to within 5 ctm. of the xiphoid cartilage. The distance from the symphysis pubis to the xiphoid is 38 ctm.; from the symphysis pubis to the umbilicus, 18 ctm.; umbilical circumference, 86 ctm.; greatest circumference, 5 ctm. below the umbilicus, 87·5 ctm; lineæ albicantes few, converging toward the pubes; a faint brownish linea nigra; umbilical depression almost effaced.

Vaginal Examination.—General dusky discoloration of the skin about the genitals, extending down over the anus and buttocks, deepening into purple on the mucous surface of the genitals. The cervix is large and fully as soft as the moist, lax vaginal walls. The head of the child is felt above the brim of the superior strait. The depressed promontory of the sacrum is easily reached.

Pelvimetry.—Dist. sp. il., 24 ctm; dist. cr. i., 27 ctm.; dist. d. B., 17·5 ctm.; dist. conj. diag., 9 ctm.; depth of symphysis pubis, 4·5 ctm.; conj. ver., estimated 7·5 ctm.

The head of the child lay with the occiput to the left, freely movable above the superior strait. The small parts of the child were turned to the right, and the breech lay in the right hypochondrium.

The fœtal heart sounds were heard most distinctly 4 ctm. below and 4 ctm. to the left of the umbilicus. The fœtal pulse was 144.

The time estimated for her labor was January 20, 1891. She came into the hospital on January 15th, and on the very next day (January 16th) labor unexpectedly began.

I held a consultation with Dr. L. E. Neale in the morning, who thoroughly concurred with me as to the advisability of performing Cæsarean section at the earnest request of the parents. The time for operation was fixed for four o'clock of the same day, by which time, in spite of strong pains at frequent intervals dilating the cervix, the head had made absolutely no downward progress.

I could readily catch the occipito-mental diameter of the head between my hands, and estimated it at 14 ctm.

Operation.—Shortly after four o'clock in the afternoon, all previous preparations having been carefully made, the operation was begun under chloroform anæsthesia, the anæsthetic being given by Dr. Ghriskey, gynæcological assistant; Dr. Hunter Robb, resident gynæcologist, and Dr. W. W. Farr and Dr. J. W. Williams, assistant gynæcologists at the hospital, also assisting.

The patient was placed on the table upon my ovariotomy pad (*vide* Plate V, Fig. 4), and the abdominal walls, chest, and thighs were protected on all sides with gauze and towels. An incision was made through the abdominal wall, 16 ctm. in length, half above and half below the umbilicus.

The second stroke of the knife exposed the deep-red uterus.

The entire length of the incision was continued through to the peritonæum. Then, while Dr. Robb was engaged in pressing both sides of the abdominal wall down upon the uterus, I quickly incised the latter, continuing the incision inward until the dark fœtal membranes pouted out; nicking the membranes, the hand was plunged through the gushing amniotic waters into the uterine cavity, catching the child by the nearest part, the left arm. I dropped this at once, and carried the hand upward more into the fundus, and caught the breech instead. The child was extracted by the breech, with flexed thighs and with its back turned anteriorly. The head lay transversely, occiput to the left; this came without the difficulty previously experienced. The child cried vigorously at once. The cord was clamped, instead of tying, in two places with artery forceps, and cut between, and the child laid in a large basin and at once cared for by an assistant.

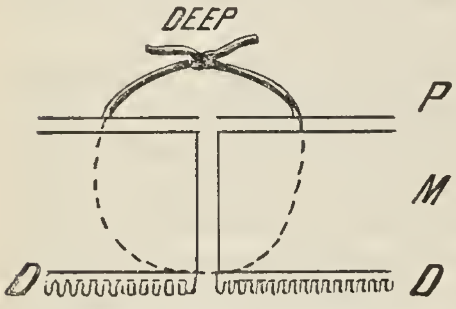


Fig. 5.—Cross-section of the uterine wound, showing the deep suture. *P*, the peritonæum; *M*, the muscularis; *D*, the decidua. The deep silk suture is seen traversing the peritoneal and muscular layers down to, but not through, the decidual layer.

The uterine incision bled but slightly (90 to 120 c. c.).

Then, grasping the cord in my left hand and following it down with the right hand through the uterine incision to the placenta, and squeezing this from its periphery toward its center, like a sponge, I drew it up and slowly extracted the placenta and membranes intact, leaving behind a clean uterine surface marked with ridges and rugosities. The placental attachment was near the fundus, posteriorly, in the median line. As soon as the placenta was extracted, the uterus contracted vigorously. The uterus, thus diminished in size, was then easily lifted out of the small abdominal incision and laid upon folds of gauze wrung out of hot water while the uterine incision was being sutured.

The walls of the uterus had by this time contracted to a thickness of 3 ctm. It was now evident that the incision had not been made in the median line, but with a marked obliquity across the anterior face of the fundal extremity of the uterus from right to left, from above downward. This oblique incision, although of no disadvantage, was contrary to my intention. It was caused by the obliquity of the gravid uterus in the abdomen, the fundus lying in the right hypochondrium, and the uterus being rotated on its long axis so that its right horn lay posteriorly, while the left horn was tilted forward to a marked degree. The incision did not reach the cervical area.

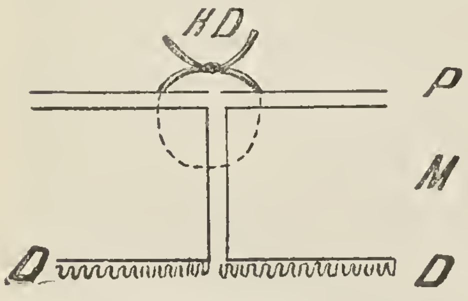


Fig. 6 shows the half-deep suture, as introduced in this case, piercing the peritoneal layers and entering a short distance into the muscularis.

Suture of the Uterine Incision.—I now deviated in suturing the uterine wound from the plan generally adopted, which I had closely followed in each of my three previous cases. In the first place, the usual deep uterine sutures were passed (*vide* Fig. 5), entering and emerging on the peritoneal surface of the uterus about 1 ctm. from the margin of the incision, transfixing the muscularis, appearing at the bottom of the wound and re-entering on the opposite side at the junction of the muscularis with the decidual layer. These deep sutures were passed about 2 ctm. apart, in the contracted uterus, from above downward. The first three were tied as soon as introduced, for the purpose of checking at once a moderate hæmorrhage in the upper part of the wound. The remaining four deep sutures were first introduced and then tied from above downward. When all the deep sutures had thus been tied, the wound presented a very satisfactory appearance. There was a little puckering and drawing in of the uterine tissue at the position of each of the sutures, and around each was a slightly blanched area. The approximation of serosa to serosa at the suture nodes was also perfect. Between the sutures, however, the tissues bulged a little, so that the muscular tissue could be seen within the narrow ellipse formed by the gaping lips of the serosa. The appearance was quite that of an abdominal incision after laparotomy, when the deep sutures have been tied, before the introduction of the superficial sutures.

I now adopted a similar plan of closure in the treatment of the uterine wound (*vide* Figs. 6 and 7). Instead of introducing the more numerous and more complicated sero-serous sutures, half-deep sutures, midway between the deep, completed the approximation, by entering about 6 mm. from the margin of the wound, sweeping down about the same distance through the muscularis, to emerge on the opposite side at a point corresponding to the point of entrance. When these half deep sutures, eight in number, were tied, the approximation of the serosa throughout the whole length of the wound was perfect. This modification—the closure of the uterine wound with deep and half-deep sutures, omitting the sero-serous sutures—is, I believe, an important step in the simplification of the technique of the operation. Time is saved, and the application of these half-deep sutures is much easier than that of the sero-serous. The chief object of the latter is to place another obstacle to infection and to hæmorrhage into the abdomen through the uterine wound. If in a given case there should be a suspicion of infection, as after prolonged instrumental interference, or efforts to turn, or prolonged labor, or in cases of cancerous uteri, I would still use the sero-serous suture. Where, however, we have to deal with a case in all respects normal, presumably free from infection, the simpler method will be found to be perfectly satisfactory, answering all requirements.

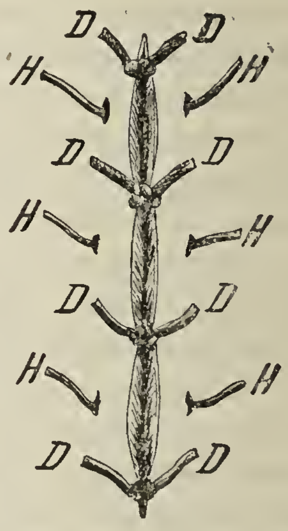


Fig. 7 shows a portion of the face of the uterine wound, with *DD*, *DD*, *DD*, *DD*, the deep sutures, all tied. *HH*, *HH*, *HH*, the half-deep sutures, are introduced between the deep sutures, and, when tied, secure perfect approximation of the serous surfaces, obliterating the narrow elliptical spaces seen between the deep sutures.

After all the sutures were introduced, the uterus appeared as an ovoid mass about 13 by 9 ctm., wrinkled and hard in front, soft and smooth behind over the placental site.

Peritoneal Toilet.—The next step was to cleanse the abdomen of any blood or fluid. The utero-vesical pouch was first sponged out, removing two large clots, then the iliac fossæ, and, by lifting the uterus forward, Douglas's *cul-de-sac* was exposed and cleansed.

Replacing the Uterus.—The uterus was then dropped into the pelvis, the omentum drawn down in front of it, and the abdominal wound closed by ten deep andten superficial sutures.

I am indebted to Dr. Reese for his careful notes filling out the following schedule handed him just before the operation:

Notes on Operation—Cæsarean Section.—By Dr. Kelly, January 16, 1891, at 4 P. M.:

Exact time of incision made in the skin, 4.17 45″.

Length of abdominal incision, 16 ctm.

Exact time of incision into the uterus, 4.18.

Estimated length of the uterine incision uncontracted, 20 ctm.

Estimated length of the uterine incision contracted, 13 ctm.

Placenta prævia cæsariana, no.

Amount liquor amnii, 800 to 1,000 c. c.

Child caught by left arm, dropped and caught by breech.

Exact time of delivery of child, 4.18 45″.

Delivery of placenta, 4.19 45″.

Duration of suture of uterus, began 4.20 45″, ended 4.27 45″.

Number of deep uterine sutures, 7.

Number of half-deep sutures, 8.

Exact time began to close abdominal incision, 4.30 36″.

Number of deep abdominal sutures, 10.

Number of superficial abdominal sutures, 10.

Time of last deep suture tied, 4.36.

Time of last superficial suture tied, 4.39 5″.

Time of complete closure, 4.39 5″.

Time of whole operation from first incision to tying last superficial suture, 21′ 45″.

Pulse of mother before operation, 72, full volume, regular.

Pulse of mother after operation, 72, full volume, regular.

Pulse of mother at 4.21 5″ during operation, 68, regular, and volume good.

Hypodermic of ergot, 15 minims, given at end of operation.

Quantity of anæsthetic (chloroform) used, 50 c. c.

Began chloroform at 4.10; stopped chloroform at 4.40.

Fœtal pulse before operation, 144; at birth, 168.

D. Meredith Reese.

The Child.—The child (*vide* Plate V, Figs. 8 and 9) cried lustily the moment it was lifted out of the uterus; there was, therefore, no apnœa in consequence of the rapid delivery. He had a slightly cyanosed appearance. His pulse at birth was 168, in contrast with 144 *in utero*, and 158 half an hour later. The first efforts at breathing were perfectly natural.

He measured, flexed, 24 ctm.; extended, 49 ctm.; hips, 9·75; shoulders, 12 ctm.; dorso-sternal diameter, 8 ctm. Head, occipito-frontal diameter, 11·75 ctm.; circumference, 34 ctm. Occipito mental diameter, 14 ctm.; circumference, 35·5 ctm. Suboccip. breg. diameter, 10·5 ctm.; circumference, 31 ctm. Biparietal diameter, 9 ctm.; bi-temporal diameter, 8·25 ctm.

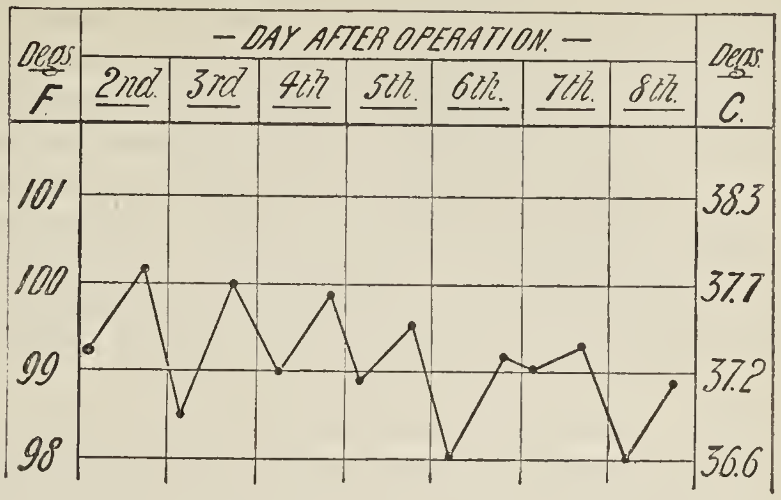
The head was beautfully rounded, being utterly free from any trace of molding, as can be seen by reference to photographs 8 and 9. His weigh was 3,175 grammes (seven pounds).

Convalescence.—The recovery of the mother from the operation was exceedingly satisfactory. After the first few hours of pain she had no more disturbance than a normal puerperal case. The pulse taken morning and evening for seven days after the operation, added together and divided by 14, averaged 80.

Only once did the temperature go above 100°, and that was in the evening of the second day, when it rose to 100·2°. The temperature for the week following the operation is shown graphically on the following chart.

The abdominal stitches were removed on the sixth day. The wound had healed perfectly throughout without suppuration (*vide* Plate V, Fig. 10), leaving an excellent scar. She got out of bed on the fourteenth day.

The baby, baptized Joseph Cesarina, nursed the morning following the operation, and continued to nurse afterward every two hours in the day-time, as after normal labor. In about two weeks the patient arose from the bed for the first time. She soon after returned to her home, whence she has recently written that both she and the baby are perfectly well.



CONTRIBUTIONS TO THE PATHOLOGY OF INFANTILE CEREBRAL PALSIES.*

By B. SACHS, M. D.,

PROFESSOR OF MENTAL AND NERVOUS DISEASES IN THE NEW YORK POLYCLINIC.

About a year ago I had the privilege of reading before the Academy of Medicine a paper prepared in conjunction with Dr. Peterson, and entitled A Study of Cerebral Palsies of Early Life, based upon an Analysis of 140 Cases. If an apology is needed for reverting to the same subject, I offer simply this: that in the former paper we discussed at some length the clinical features of these palsies, and in this article I wish to treat of some of the pathological lesions to be found in these early infantile affections.

It has been my good fortune during the past year to see at least sixty-five additional cases, bringing the total number up to two hundred and five. For this unusual opportunity of studying so many examples of diseases hitherto but poorly understood, I am specially indebted to Dr. Gibney and Dr. Townsend, by whose courtesy the vast material of the Hospital for the Ruptured and Crippled has been in part directed to my department at the Polyclinic.

The forms of disease here to be discussed are, after all, somewhat rare, and although peculiar circumstances have enabled me to see more of these cerebral palsies than of anterior poliomyelitis during the past few years, I still believe that the spinal affection is the more frequent; but the large number of cerebral palsies I have seen will give some idea of the relative frequency of these troubles.

In private practice I have seen as many cases of *cerebral* as of *spinal* infantile palsies; this, too, may be either accidental or easily accounted for; but I feel certain that the number of these cases seen by others will increase very considerably as soon as the leading symptoms of these affections are generally recognized. Many of the cases are seen twenty and more years after the onset of the disease; in some, an epilepsy, with very slight hemiparesis; in others, hemiparesis, slight contractures, methemiplegic movements, and exaggeration of the reflexes are the only symptoms that point to a cerebral affection of old standing. I have seen at least six cases of epilepsy which have passed through able hands and have been pronounced cases of typical epilepsy, but which on closer examination have been found to be instances of epilepsy associated with early spastic cerebral palsy, both conditions being due to one and the same lesion.

---

* Read before the New York Neurological Society, April 7, 1891. For illustrations, see Plates I, II, and III.

Large orthopædic institutions, pauper asylums, and homes for idiots are full of these patients. In an able statistical paper on club-foot, published in the *Transactions of the Medical Society of the State of New York* for 1890, Dr. Townsend collected seven hundred and twenty cases due to spinal lesion, and seventy-seven spastic cases (say one to ten), mostly due to cerebral lesions; but Dr. Townsend has been kind enough to tabulate for me the cases seen at the Hospital for the Ruptured and Crippled during the last year, and, with the full knowledge of the subject now at his command, he finds the relative frequency of cerebral cases far greater than any one would have expected it to be.

The records of the hospital show for the past year one hundred and forty-two spinal cases, with deformities of all sorts, and ninety-one of cerebral origin. Doubtful cases were omitted from the list. These figures, which are larger than any other institution could show, prove that, of the cases seen during one year, 61 per cent. were of spinal origin and 39 per cent. of cerebral; the proportion is not three to one. Dr. Townsend, in a letter to me, expresses his great surprise. I should not be surprised if the proportion should be found to be still greater in favor of cerebral palsies.

The clinical features of these cerebral palsies were so fully given in the paper* alluded to that I have to-day but to add that the symptomatology as established by the former studies has been fully borne out by an analysis of cases seen since the publication of that paper.

Let me simply remind you of a few of the points which we sought specially to fix upon. First, that the mere form of the palsy, while pointing to a different location and a varying extent of the lesions in question, should not constitute a sufficient reason for the creation of special types, and that a hemiplegia, a diplegia, or a paraplegia may be due to the same morbid processes. Secondly, that although the majority of the cases are of the distinctly spastic type, flaccid paralyses do sometimes occur which are unquestionably of cerebral origin; and, again, that there are a few atrophic palsies due to lesions in the brain and not to lesions in the spinal cord or the peripheral nerves. These features, taken in conjunction with the occurrence of dementia or epilepsy and with the typical contractures and exaggerated reflexes, make the diagnosis a very positive one, and I can safely say that of the two hundred and five cases we have seen, doubt as to the spinal or cerebral origin was entertained in but a single instance.†

Accepting these clinical features, we are ready to pass on to a consideration of the pathological lesions underlying them. The most important conclusion of former studies on this point was that the largest majority of these cerebral palsies of childhood were due to hæmorrhage, thrombosis, and embolism. This has been borne out, not only by the publications of others, but by my own recent studies. I have found a confirmation of my views in post-mortem examinations, and, much to my gratification, in a recent operative case with Dr. Wyeth, in which the diagnosis of epilepsy and hemiparesis due to meningeal hæmorrhage thirty years ago was corroborated as soon as the motor arm center in the right hemisphere was exposed.

Not wishing to weary you with the details of these pathological studies, I have prepared a table in which I make the attempt to give the morbid lesions and the symptoms which most frequently accompany them. Like every such attempt, this one will be imperfect; but I trust that additions and corrections to be made hereafter, by others if not by myself, will make good whatever defects there may be in the classification submitted to you. In this table I have divided the cases into those of truly congenital origin, those occurring during birth, and those that may be properly called acute or acquired cerebral palsies.

INFANTILE CEREBRAL PALSIES.

	Morbid lesion.	Form of palsy.*	Distinguishing symptoms and conditions.
PRENATAL.	Large cerebral defects.	Diplegia, hemiplegia, paraplegia.	Birth normal, possibly premature; convulsions often absent; mental condition sometimes good, often deficient.
	Agenesis corticalis and minor lesions. (Highest nerve elements involved.)	Diplegia, hemiplegia, paraplegia.	Birth normal; paralysis may be flaccid; great mental defect; convulsions present or absent.
BIRTH PALSIES.	Meningeal hæmorrhage, rarely intracerebral hæmorrhage (later conditions: meningo-encephalitis chronica, sclerosis, and cysts).	Hemiplegia, diplegia, paraplegia.	Protracted labor, chiefly in primiparæ; instrumental delivery; asphyxia at birth. Convulsions soon after birth and oft-repeated; early development of contractures. Idiocy frequent.
ACUTE (acquired) PALSIES.	Hæmorrhage (meningeal and rarely intracerebral), thrombosis (sometimes due to syphilitic endarteritis). Embolism. Later conditions: atrophy, cysts, sclerosis, and softening.	Hemiplegia, diplegia, paraplegia.	Sudden onset, generally with convulsions; repeated convulsions; slight or no fever; recovery of leg or arm very frequent; post-hemiplegic movements. Mental development rarely interfered with; after or during acute infectious diseases.
	Meningitis chronica.	Hemiplegia, diplegia?	History of onset after attack of meningitis. Basilar symptoms with spastic paralysis; basilar symptoms sometimes wanting.
	Hydrocephalus (rare as sole cause of palsy).	Paraplegia, diplegia, hemiplegia.	Increasing size of head; onset of paralysis gradual; progressive deterioration of mind; exclusion of other lesions.
	Primary encephalitis? (Strümpell.)	Hemiplegia, diplegia.	Onset with fever and convulsions, independently of or after acute infectious diseases.

I feel compelled to explain a few points. First, that hæmorrhage, thrombosis, and embolism were positively proved to be the most frequent lesions in the acute cerebral cases; that other conditions so often cited were terminal and not initial morbid states. It may be surprising, too, to many, that primary encephalitis is put at the very end of the table, and with a question-mark at that. Strümpell's now famous theory has taken a wonderful hold upon the medical mind, and yet I must repeat what I said last year—that there is remarkably little proof of the existence of this condition. The reasons for this statement must be given before proceeding to a discussion of the true morbid lesions. Reasoning by analogy, Strümpell concluded that a certain number of cases of acute infantile cerebral palsies were similar in every respect to cases of poliomyelitis anterior, except that the symptoms pointed distinctly to a cerebral and not a spinal trouble. It was natural, therefore, for him to maintain that the gray matter of the cortex was subject to the same changes that affect the gray matter of the spinal cord; hence, if we know of a condition of poliomyelitis anterior, why should there not be a condition of polio-encephalitis? There is no inherent reason why not; but proof is wanting. Strümpell himself has abandoned the idea of a polio-encephalitis, and now speaks of primary encephalitis; but even this theory must be accepted with some reserve. The more fascinating the idea, the more carefully we should examine into it. The only proof we have of the probable existence of this disease in children is given by two well-observed cases of Möbius,* in which one child was affected by a poliomyelitis and another child in the same family at the same time developed typical acute cerebral palsy (spastic hemiplegia without aphasia). Furthermore, Strümpell † has reported within the last year two cases of adult apoplexy in which he was surprised to find a widespread encephalitis and not hæmorrhage or embolic softening, as every one would have been apt to believe.

---

* *Jour. of Nerv. and Ment. Dis.*, 1890.

† Since the foregoing was written, I have seen one case, and the only one, in which there was evidence of a spinal *and* a cerebral lesion.

* The form of palsy is given in the probable order of frequency.

I can not allow that the occurrence of such a condition in the adult is sufficient proof of its occurrence in the young; but even granting the analogy, all that we can infer is that among the many thousands of cases of adult apoplexy a very small number may be due to an encephalitis, and it is possible that an equally small or smaller number of these infantile cases may be due to the same condition; but all the evidence we have is entirely against the assumption that a primary encephalitis is the rule in the acute brain palsies of children. I uphold what I said a year ago—that polio-encephalitis should be diagnosticated last, not first, and I can not understand why this encephalitis should always take the form of a hemiplegia, as Strümpell would have it. I have seen at least two cases in which, if in any, the symptoms of onset corresponded accurately to the description given by Strümpell, but the form of paralysis was a diplegia and not a hemiplegia. However much one may be inclined to give this theory its due weight, it has undoubtedly been a hindrance to the understanding of the pathology of the diseases in question. We might as well allege cysticercus to be the most frequent form of brain tumor in children as to maintain that a primary encephalitis is the most frequent cause of spastic palsy in children, and to raise these rare and doubtful cases to the dignity of *the* cerebral palsy is an absurdity.

From the tables which I have submitted it is evident that there are many morbid states giving rise to the same symptoms. Of the three autopsies which I have had, each one represented a condition entirely different from the other two. Two of these three autopsies I wish to explain to-night.* The first case is not only interesting as a contribution to the pathology of this special subject, but would be able to stand on its own merits if reported, for the tumor developed in the brain shortly before death. The history of this first case is as follows:

J. W., one of the one hundred and forty patients, a healthy-looking boy, eight years of age, was well until six years and a half old; then without any known cause was seized with convulsions and developed right hemiplegia. When brought to the Polyclinic, three months later, he presented the symptoms of a typical spastic hemiplegia of the right side, including the face, and in this permanent involvement of the face presented at least one unusual feature. He furthermore gave the history of loss of speech following the attack, and of repeated epileptic seizures involving the right hand only. His mental development was only a little retarded, while his head showed the hydrocephalic condition, and during observation the head was noticed to increase in size. No other deformities of the skull. It was a mere matter of chance that this case sought admission to the Montefiore Home, where he continued under my observation. While there he was doing extremely well, was happy, ran around freely, and there was every prospect of his remaining an inmate for many years. No changes were noted until the end of October, 1890, when one day he suddenly fell down and the right hemiparesis of old standing had developed into complete hemiplegia. There was no loss of consciousness during this occurrence. The face was not more paralyzed than before; there was no incontinence of urine and fæces. Within a few days after this fall the boy developed fever varying between 101° and 103·5° F. During this time a disturbance of vision was developed which ended in absolute blindness. Speech became more and more difficult; he developed a mild stupor which gradually deepened into coma. Two weeks later intermittent opisthotonos was observed, this condition, too, becoming permanent. After five weeks, with the continuance of all the other symptoms, left ptosis and paralysis of the left rectus externus and anæsthesia of the right cornea were added; the pupillary reflexes were lost, and the contractures of the right side increased. Dr. Koller, who made an ophthalmoscopic examination, reported that the papillæ were swollen and whitish-gray, not distinctly outlined, arteries very small and thread-like, veins dilated and tortuous—in short, a retrogressive papillitis. From the time of the fall until deep coma had been established the slightest touch over the left motor area was extremely painful, the contractures became extreme, the reflexes were exaggerated throughout, the anæsthesia of the cornea became absolute, and for fully thirty-six hours before death the right eye ceased winking; respiration became irregular, and the boy finally died eight weeks after the onset of this last attack. Convulsions were not repeated during the whole of this time.

The old hemiplegia was ascribed to a cystic formation probably due to hæmorrhage over the left motor area. For a few days after the development of the increased paralysis and during the continuance of the fever the idea of abscess in connection with the old cyst was entertained; but this was soon abandoned, and a tumor growing in the walls of the old cyst was the diagnosis made in the presence of the house staff and adhered to to the end. In no other way could the increase of the former hemiplegia, without the addition of further symptoms, be explained.

---

* Schmidt's *Jahrbücher*, 1884, cciv, p. 135.

† *Dtsch. Arch. f. klin. Med.*, xlvii.

* For an account of the third case, see *Jour. of Nerv. and Ment. Dis.*, Sept. and Oct., 1887.

The tumor was supposed to be a glioma or gliosarcoma, but the development of basilar symptoms later on made me hesitate and led me to believe that a basilar meningitis had been developed, and it was therefore natural to suppose that the original tumor, although the boy was in excellent health, was of a tubercular nature. In this I was mistaken, for the basilar symptoms must be attributed directly or indirectly to the second tumor found in the right temporo-sphenoidal lobe.

The autopsy was performed within twenty-four hours after death. The skull and the spinal canal were the only parts opened. The skull was large and thin, with enormous occipital bulging. The fontanelles were closed. The calvaria was easily removed, there being no adhesion between the dura and the skull. The unusual size of the brain was at once made evident, the posterior portion having been enormously expanded by the accumulation of fluid within the ventricles, and the hemispheres being so thin that the fluctuating mass beneath could be distinctly felt and all trace of normal fissuration was entirely lost. The conditions are best explained by reference to Plate I, Plate II, and Fig. 1 in Plate III.* While the brain was still *in situ*, the cyst occupying the left motor area and the tumor in its walls could be distinctly observed. After the brain had been removed, further changes were observed at the base; first of all a large cystic formation† at the apex of the left temporo-sphenoidal lobe, pressing in upon and almost covering the left crus. The optic nerves were evidently atrophied, and the left abducens was extremely thin. There was no thickening of the meninges in the interpeduncular space nor over any part of the base. Pushing the basilar cyst aside, the degenerated condition of the left crus was extremely marked. Next in order we came upon the large and hard tumor in the right temporo-sphenoidal lobe. Upon puncturing the anterior cyst, large quantities of fluid escaped—surely more than a pint—and with it the posterior bulging diminished, showing that this anterior cyst had communicated with the ventricle. A small portion of the tumor in the right temporo-sphenoidal lobe was at once removed for examination, but with this exception the brain was submerged *in toto* in Müller's fluid, in which it was allowed to harden for a few weeks before any further examination was made. The spinal cord was removed and suspended in Müller's fluid. The brain and spinal cord have been made the subject of careful examination, which has yielded the following facts:

The unusual weight of the brain was caused by the accumulation of fluid in the ventricles, and the two tumors. The right hemisphere was slightly œdematous, very much flattened in its occipital portion, but otherwise normal; the pia could be removed freely from every part of its surface. The left hemisphere appeared larger than the right, in consequence of the greater amount of fluid in the left ventricle. All the blood-vessels were of normal appearance. The pia could easily be removed, except over the cyst; here no pia could be made out; it was evidently an integral part of the roof of this cyst.

The old cyst (Plate II) occupied an area bounded anteriorly by the post-central convolution, posteriorly by the anterior portion of the interparietal fissure, while it extended upward within an inch of the chief longitudinal fissure, and downward as far as the upper end of the fissure of Sylvius. It had thus involved a portion of the posterior central convolution, the superior and inferior parietal lobules, and the gyrus supramarginalis. The roof of the cyst was formed by a thickened, somewhat transparent, membrane. On cutting through this membrane, it was evident that there was a very large amount of detritus in the cavity of the cyst, while in the lower anterior end of this cavity a hard, small, round tumor is felt. Under the surface the destruction has evidently exceeded these limits, and the whole of the posterior central convolution was undermined and softened. The posterior portion of the left hemisphere in the hardened specimen, though now very much contracted, offers far less resistance to pressure than the portion frontad of the sulcus Rolando does.

The actual size of the "small round tumor" in the cyst was not suspected until vertical sections were made through the brain many weeks after it had hardened in a bichromate solution. You will all grant that the term "small round tumor" does not do justice to the facts (Plate II, Fig. 2). The part protruding in the cyst was a minimal portion of this huge tumor. As you see, it extends to the ventricles from the outer margin of the cortex, pushing everything aside, and leaving only here and there some normal cortical tissue. It begins, furthermore, at the anterior end of the Sylvian fissure and extends well back to the beginning of the occipital lobe; it has entirely displaced the ventricle, which would be difficult to recognize were it not for the great thickness of its ependyma. Sections of this tumor, stained in carmin, picrocarmin, and hæmatoxylin, prove it to be a small-celled sarcoma in which there are also some spindle-shaped cells surrounded by a large amount of fibrous tissue.

The base presents a larger number of pathological changes. In the hardened specimen we are struck first of all by the collapsed condition of that portion of the left hemisphere lying caudad of the fissure of Sylvius. Next we observe the peculiar cystic condition of the inner part of the temporo-sphenoidal lobe which pressed seriously upon the left crus. In the right temporo-sphenoidal lobe, about two inches below its apex, a large tumor was found extending from the outer surface as far inward and downward as the ventricle, and this tumor has all the characteristics of the tumor in the old cyst, is uniformly hard to the touch, and, as the microscopical examination has shown, is also a small-celled sarcoma. Both olfactory nerves are extremely thin; the optic chiasm and optic tracts had been pushed aside and are distorted in consequence of the growth of the cyst of the left side (Plate III, Fig. 1). The left optic tract is very much smaller than the right. The left crus shows such marked atrophy of the middle portion that the internal and external portions almost fall upon themselves. The right crus is broad and normal. The left third nerve is very much compressed; the right third appears normal. In the fourth and fifth nerves no changes are to be observed, nor in the macroscopical appearances of any of the other cranial nerves. The pons shows an inequality in favor of the right side, while in the medulla this is not so distinct.*

The microscopical examination of the cord showed changes which were in part visible in the fresh specimen, namely, very marked secondary degenerations in the left pyramidal tract of crus, pons, and medulla, and throughout the entire lateral columns of the right side of the cord. There is also a slight degenerated area in the left lateral column. Changes in the anterior columns are not very distinct.

In spite of the manifold lesions found in the brain of this child, there is no difficulty in explaining the relations between these lesions and the symptoms during life, nor in determining the sequence in which these various pathological conditions became established. That the old hemiplegia was due to the cyst in the left hemisphere there can be no doubt. Some doubt there may be, however, as to the origin of this cyst, but, in view of the peculiar detritus, of the very irregular margin of the cyst, we need have no hesitation in assuming the hæmorrhagic origin of this formation. Moreover, the area involved in the cyst does not correspond to the territories supplied by the main branches of the middle cerebral artery; there is no reason, therefore, to think of an initial embolic softening, and, more than that, the blood-vessels were found normal. The existence of the hydrocephalus probably antedated the cyst in the left hemisphere. It was specially noted in our records that the head was increasing, and I have no doubt that the smaller cystic formation near the apex of the temporo-sphenoidal lobe was of very recent development. The other changes at the base were the result of compression or of the secondary degeneration following upon the destruction of a large portion of the left motor area.

---

* Special acknowledgment should be made to Dr. Macdonald for the beauty of his drawings and his careful study of the specimens submitted to him.

† The cyst, in reality, formed part of the apex of the temporo-sphenoidal lobe.

* In Plate III, Fig. 1, after the hardened specimen, some of these points are not so distinct as they were in the fresh specimen.

We have learned in the course of our studies not to attach too great an importance to the hydrocephalic condition pure and simple. There are very few cases in which the hydrocephalus was the cause of the infantile cerebral palsy. In an analysis of one hundred and four cases with autopsies, not a single case could be attributed to this condition, although other lesions were often found associated with a hydrocephalus. Inasmuch, too, as our little patient was bright and well until eight weeks before his death, we can assume with perfect safety that, however much the hydrocephalus may complicate the anatomical appearance of the brain, it was not responsible for any of the symptoms.

It is not a little surprising to find that the cortex will tolerate great hydrocephalic pressure and yet not suffer in its functions. I have no doubt that the occipital cortex in this case performed all its functions normally until a few weeks before death. The tumor unquestionably increased the hydrocephalic condition, but the head was noted to be large and increasing long before the symptoms of tumor appeared. And remember that in this, as in so many other cases, the general intelligence remained good. I was curious to compare the cortical structure of the occipital region with those of other regions less affected by the hydrocephalus; pieces of cortex were therefore excised from the right and left occipital regions and from the left frontal region.

The examination of these specimens showed, first of all, the marked diminution of gray matter in the parts much compressed. In the three specimens which I present,* you will observe that in the one representing the extreme hydrocephalic condition there is scarcely a normal pyramidal cell to be detected; the blood-vessels are small, and some of them show a slight cellular proliferation of the vessel walls; in the other specimens these conditions are less marked, and in the frontal section, where the hydrocephalus exerted the least influence, you find a tolerably normal condition of the cells, but a surprising dilatation of the veins, and many of these veins are completely filled with blood. But in all these sections there is no evidence of sclerosis.

I was so firmly convinced of the existence of a hæmorrhagic cyst in this case of acute cerebral palsy that I was at once ready to explain the lesion which could give rise to an increase of the old symptoms. Some new process, I argued, must have started up in the old lesion, and the walls of the cyst seemed to me to offer the very best opportunity for the incursion of a growth. The diagnosis of such a tumor was made easy by the rapid development of double optic neuritis, of blindness, and, above all, by extreme painfulness over the left motor area. Considering the well-known fact that tumors are most apt to develop in atrophic or mal-developed tissues, and considering, furthermore, the relative frequency of these cases of cysts in the brain, it is surprising that so few instances of tumor development in old cysts have been reported. I have carefully examined the writings of Bernhardt,* of Nothnagel, † of Mills, ‡ and of Starr # bearing upon this subject, and have not found the records of a single case exactly like my own. Cysts of all dimensions are frequent enough, and in three cases only—those of Jackson, ‖ Moines,^ and Escribano ◊—is there any note of the joint occurrence of cyst and tumor; but in none of these cases, even, was there any good reason to believe that the cyst was developed in childhood, or that it antedated by any considerable length of time the development of the tumor. Microscopic examination has shown that the two tumors in this case are of exactly the same character, although the one at the base is much smaller than the one in the left hemisphere. There is every reason to believe that it was developed later than the one which caused the hemiplegia. The tumor at the base, however, is evidently responsible for the symptoms which were developed toward the end of life, which pointed to an involvement of many of the cranial nerves, and which led me on this very account to suspect that there was a basilar meningitis.

In view of the unusual size of the tumor, I wish to allay any doubts as to its relation to the old hemiplegia. If the tumor was the cause of the old hemiplegia, what were the symptoms of the cyst? Surely not the increase in the hemiplegia, for the complete disintegration of the contents of the cyst proved them to be far older than two or even six months. I can not positively assert that the tumor began to develop a few months before death; it probably began a little earlier, and had evidently attained a respectable size before it produced prominent symptoms; but the sudden accession of headaches, double optic neuritis, and semi-coma point to a sudden and rapid growth. That there were no local convulsions need not surprise us if we remember that the old cyst left very little motor cortex capa-

---

* The demonstrations were made at the meeting.

* *Hirngeschwülste*, Berlin, 1881.

† *Topisch. Diagnost.*, etc., 1879.

‡ Pepper's *System of Med.*, v.

# Keating's *Cyclop. of Dis. of Children*, iv.

‖ *Med. Times and Gaz.*, Nov., Dec., 1872.

^ *Arch. f. path. Anat. u. Phys. u. f. klin. Med.*, lxx, 1877.

◊ Schmidt's *Jahrbücher*, 1867, i.

ble of "discharging." The size of the tumor, astonishing as it is, is not an indication of great age, for sarcomata are known to grow with extreme rapidity in the brain and in other organs. I remind you of the sarcomata, many pounds in weight, that have developed within a few months in the breasts of young women. In this instance we are again reminded of the fact that it is quite impossible to foretell anything regarding the size of a brain tumor. The tumor in this case, though the most striking morbid condition, need not detract from the importance of the old cyst, which I hold to be the residue of a subpial hæmorrhage three years ago, the cause of this acute form of infantile cerebral palsy.

The second case which I shall take the liberty of reporting is of a very different character from the first—different in its clinical symptoms and in the pathological findings. As this case is to be reported in full, together with a series of studies by Dr. Holt and myself, I shall give but brief details this evening. The patient's history was given in the paper of last year, from which I quote the following:

> The child was a little boy one year of age. He had congenital spastic paraplegia. The mother, a primipara, was in good health, but the labor was hard and dry for forty-eight hours. The child was asphyxiated when born. From the first day up to the age of six months and a half the child passed through a rapid succession of tonic and clonic spasms affecting all the muscles of the body, causing rigidity of all extremities, opisthotonos with extreme arching of the back, enormous exaggeration of all the reflexes, including a patellar clonus on the slightest excitation. There was convergent strabismus and continual crying. The mental condition, as far as could be judged, was deficient but not absolutely idiotic. The epileptic spasms were so frequent that we succeeded in obtaining a photograph of the child during one of these spasms. In the intervals between the spasms the child could move its hands and arms, but the legs remained in the condition of spastic rigidity. As the parents confessed themselves unable properly to care for the child, we referred it to Dr. Holt's Babies' Hospital, where the child remained for a few weeks, passed through an eruptive disease of doubtful character, and finally died. The autopsy was made within twenty-four hours after death by Dr. Holt, who has kindly left the brain to me for detailed examination. The most noticeable feature of the brain was the absolute adherence of the pia over both hemispheres: it was impossible to remove even the smallest strip from any part of the cortex. The brain appeared somewhat firmer to the touch, but, as far as the fissuration could be determined through the adherent pia, there was no unusual change in this respect. But most striking of all was the marked symmetrical atrophy of the frontal halves of both hemispheres. The brain and cord have been carefully hardened in Müller's fluid, and the cortex, the ganglia, and the whole spinal cord have been made the subject of careful microscopical examination. The change in the cortex is very evident on specimens stained in carmine, picrocarmin, and hæmatoxylin.

From whatever part of the cortex specimens were examined, the same change was shown throughout. We have, first of all, a general adhesion of the pia to the cortical tissue; the pia is thickened and characterized by a general cellular infiltration; its blood-vessels show marked cellular proliferation; the veins in the subpial space are dilated and filled with blood, and small branches of the pial sheath passing in between the convolutions show the same changes that we find in the pia that is stretched over the convex surface. In the cortex itself, instead of the normal arrangement of cells, we find few if any normal pyramidal cells; but in the outer layers, and particularly in what would correspond to Meynert's third and fourth layer, we find an enormous profusion of small glia cells. The blood-vessels are in part normal, but many of them show marked small-cell proliferation of their walls. There is unquestionably a thickening of the neuroglia. The anatomical diagnosis is clearly that of a chronic meningo-encephalitis. In the drawing (Plate III, Fig. 2) the space *a* is somewhat artificial. The changes in the cells and in the vessel walls are distinctly shown; to the right of the pial projection there is a structureless area, probably the result of a small hæmorrhage. We can not err in attributing this meningo-encephalitis to a very wide-spread effusion of blood between the pia and the cortex at the time of birth. Protracted labor and the marked asphyxia are the clinical conditions which corroborate that view. The spinal cord, as far as it has been examined up to the present time, reveals a most distinct degeneration of both lateral columns. That this degeneration is secondary to the cortical lesion there is every reason to believe, for this degeneration can be recognized in all parts of both motor tracts and in the pyramidal tracts of the pons and medulla, as well as in the lateral columns at every level of the cord. It must be remembered that the cortical affection was bilateral.

I have only to add with reference to this case that it has a special significance, inasmuch as it is the second case of congenital spastic paraplegia in which an autopsy has been made, or at least recorded; and it is of extreme value, it seems to me, as proving, beyond the shadow of a doubt, that these cases of congenital spastic paraplegia are of cerebral origin and not due to spinal-cord lesions. In the only other case of infantile spastic paraplegia dating from birth which has been recorded with autopsy, Förster* found a general sclerosis of the brain; this may have been a secondary condition, but the case loses much of its value since no microscopical examination was made. Only within the last few years so eminent an observer as Ross† was inclined to think these cases of spinal origin and due to traction at birth. I have elsewhere stated that the occurrence of idiocy and mental enfeeblement in fully 80 per cent. of the cases of congenital spastic paraplegia would of itself seem to point to the brain as the source of the disease; and if, as in my own case, the lateral columns are affected, the affection is secondary to the initial cerebral lesion. The unusual convulsions in my case must be attributed to the fact that there was an active and widespread encephalitic condition; this inflammatory state was not at an end before life terminated, and the constant occurrence of epileptoid seizures is what we might expect in such a condition as the one I have just described.

The knowledge of the pathological lesions underlying these various conditions is not only a matter of scientific curiosity, but it has a most distinct bearing point upon the treatment of these diseases. Hitherto the majority of cases have either not been treated at all or else they have helped to swell the numbers in orthopædic and other hospitals, and many of them are the inmates of our pauper institutions. The orthopædic surgeon will have to attend to the correction of the physical deformities; in those cases in which a persistent palsy, or more especially an extreme contracture of one or both of the extremities, is the chief residue of the disease, the surgeon will no doubt sooner or later be able to give a fair measure of relief. But it is more important for us to consider whether we have a right to interfere with the cerebral lesion in order that we may combat the development of idiocy or epilepsy, or whether it be possible—one or the other of these conditions having been established—to obtain relief by surgical procedures. The question can not be decided unless some such analysis of the morbid lesions be attempted as I have given in this paper. If we have to deal with a condition of porencephalus or with a condition of cortical agenesis, it is manifestly impossible to improve this condition by an operation; and if such brains are incased within a microcephalic skull, even the recent operation of craniectomy will do no earthly good. As for the birth palsies, no surgeon will be bold enough to attempt the removal of a subpial or subdural clot in a child only a few days old; and long before the child is strong enough to tolerate any such serious operation, the mischief is done, an encephalitic or a sclerotic condition has been established for which the surgeon's knife can promise no relief. It is only in the cases of acquired cerebral palsies that one would naturally think of the possibility of operative procedure. Should the diagnosis point to thrombosis or embolism, there is no good reason for surgical interference. But how about cases of hæmorrhage?* Arguing from the analogy with adult cases, there would seem to be no good reason to interfere in cases of hæmorrhage until some time has elapsed after the initial apoplexy; for presumably, as in adult apoplexy so also in the infantile forms, much of the clot will be absorbed; but if we leave the clot to be absorbed, a very short time may suffice for the establishment of secondary changes in the brain and spinal cord. In adults the clot is generally in or near the ganglia; in children it is most frequently upon the surface. It is my belief that the greatest good will be done if the surgeon will exercise his skill at this early period.

---

* *Jahrb. f. Kinderheilk.*, xv.

† On the Spasmodic Paralyses of Infancy. *Brain*, v.

I have no hesitation, therefore, in recommending that, if the symptoms point to the formation of a large clot over the motor area of a child otherwise healthy and strong enough to endure the operation, the attempt be made to remove the clot in order at once to release pressure upon the given area and to prevent secondary degeneration. It is commonly urged that in many cases we can not at the start state with any degree of certainty whether the case is a spinal or cerebral affection. This I can not concede except in the rarest cases. In several instances I have made the differential diagnosis at once, and in others within twenty-four hours after the onset of the trouble, and I claim no special diagnostic powers. The excellent recoveries from surgical procedures upon the brain have led up to this view, and I firmly believe that recent cases will give more satisfactory therapeutic results than the cases of old standing. My own experience covers three cases of infantile spastic palsies of old standing in which the patients have recently been operated upon—one by Dr. Gerster and two by Dr. Wyeth. The time is too short to speak of the ultimate result as regards the persistence of the epilepsy, and. of course, we do not do the surgical operation upon the brain to improve an old-timed hemiplegia. In one of the three cases, as I intimated at the beginning of this paper, a hæmorrhagic infiltration and discoloration of the pia, with marked thickening of the same, was found as proof of the old meningeal hæmorrhage. Small vertical incisions were made through the pia at this point by Dr. Wyeth to release the local pressure. In the other two cases, although the dura was opened, no change could be made out. There are several possibilities which must be considered:

First, every trace of the old trouble may have disappeared; and, secondly, in cases of meningo-encephalitis or of sclerosis the changes can only be made out by microscopical examination. Take the case of Frobel, the child with spastic paraplegia, and you will readily perceive that if its brain had been exposed *intra vitam*, the changes in it might not have been recognized. Next we must consider whether, if we have good reason to suspect the existence of a cyst or of a scar, it would be wise to make this the point of attack. From the fact that a cyst acts somewhat like a foreign body in the brain, there could be no harm in removing it, or at least in emptying its contents, provided drainage of this cyst does not mean withdrawal of a large portion of the cerebro-spinal fluid, and many cysts are entirely independent of other parts and cavities of the brain. But the operation would surely do no good if done as late in life as in Dr. William A. Hammond's case, in which the patient, who was twenty years of age, had carried the large cyst from the very earliest period of life.* The presence of a cyst unquestionably acts as an irritant upon the neighboring brain area; it is therefore in cases of persistent hemi-epilepsy associated with infantile hemiplegia that the attempt to remove the cyst or other morbid lesion might be attempted justly enough. Cases of diplegia and paraplegia associated with epilepsy do not appear to be the proper cases for operation, for to do any reasonable amount of good, both halves of the brain would have to be operated upon. This should not be attempted unless operations upon cases of hemiplegia with epilepsy have shown that some good can come from such an operation.

The matter becomes still more difficult in those cases in which a general lobar sclerosis or a condition of primary encephalitis is suspected. In lobar sclerosis the disease is always widespread, and if one area was removed, the remaining ones would be sufficient to continue many of the symptoms. Meningo-encephalitis has an acute and a chronic state. In the acute state we would surely not operate, and in the chronic state we can not say exactly how far the inflammatory process has progressed, and we could do no good unless after removal of an encephalitic area the child's brain was sufficiently young to take upon itself functions that were lost. And let us reflect that if this could occur in a given case, we should have a right to expect that the injured brain before operation would assume the functions of parts that through disease were practically lost to it.

---

* It goes without saying that this diagnosis is sometimes impossible.

* *N. Y. Med. Jour.*, 1890.

There are two facts, moreover, which are well calculated to dampen our surgical ardor: First, a brain that has been the subject of epileptic discharges falls into what one may justly claim the epileptic habit. Remove the original focus of disease, and the habit or other foci of disease may remain. My own experience in the surgical treatment of focal epilepsy leads to anything but a roseate view. Secondly, granting that the removal of a clot or an old infiltration or a scar may inhibit the epilepsy, you may and probably will have to face the alternative of a palsied arm or leg or both. Considering how useless many of these contractured, athetoid, and paralyzed extremities are, the choice would be an easy one for us; but it is eminently proper that the patient, if old enough, should express his preference.

And yet there is promise enough among this special class of cases, and if we are to fix upon the one of a dozen cases of infantile palsies in which the surgeon may come to the rescue, we must, above all, have a thorough understanding of the morbid lesions.

A CLINICAL REPORT OF OPERATIVE SURGERY IN THE SERVICE OF DR. WILLIAM T. BULL,
AT THE NEW YORK HOSPITAL,
During October and November, 1889, and from February to June, 1890.

By WILLIAM B. COLEY, M. D.,
LATE HOUSE SURGEON.

(*Continued from page 480.*)

ABDOMEN.

(*b*) *Herniæ.*—There were 35 operations for herniæ, divided as follows: Inguinal, 31 cases—cæcal, 2; properitoneal, 2; reducible, 21; irreducible, 5; and strangulated, 5. Femoral, 4 cases—reducible, 3; irreducible, 1. Umbilical, 1 case—strangulated.

Operations for hernia, 35 cases—recoveries, 33; deaths, 2 (strangulated).

The method of operation pursued in the ordinary cases may be briefly stated as follows: A two-and a-half-inch to three-and-a-half-inch incision was made in the line of the inguinal canal. The sac, having been exposed just below the external ring, was cut across transversely, and the contents of the intestine were returned to the abdominal cavity. Omentum, in small quantities and in good condition, was returned, but in most cases it was ligated with strong silk and removed. The upper portion of the cut sac was then freed from adjoining tissues and ligated with catgut as high up as possible. The pillars of the ring were next approximated with interrupted catgut sutures, usually three or four in number, embracing the conjoined tendon, as well as the external and internal pillars of the ring. The lower portion of the sac, unless easily dissected out, was allowed to remain, and was drained through the scrotum.

The external wound was then closed, generally with a small rubber drain at the lower extremity, but frequently with out drainage.

An antiseptic dressing, with moderate pressure obtained by means of rubber plaster and a spica or hernia bandage, was applied and allowed to remain from five to seven days.

The patients were allowed to sit up, as a rule, at the end of ten days, and at the end of two weeks, if no sinus remained, they were allowed to go out, wearing a Heaton bandage, with a light pad over the wound. A light truss was advised as soon as the cicatrix had become firm.

Ball's method was employed in four cases. The sac, instead of being removed high up, was twisted and then sutured in the canal by means of interrupted catgut sutures.

The cases possessing points of unusual interest are given with more or less detail below, while the ordinary cases have been arranged in tabular form, containing only the more important points.

These may be still further summarized as follows:

Average Time in Hospital.—For twenty-four uncomplicated cases the average duration of hospital treatment was 23·6 days. Nine patients left the hospital within two weeks.

Omentum.—In eleven cases larger or smaller masses of omentum were ligated and removed. Four of these cases were followed by subsequent inflammation of the omental stump. In one instance this was so severe as to give rise to a sharp attack of localized peritonitis in the epigastrium. This occurred about the end of the third week following the operation, and the patient had been up and about the ward. There was an area of well-marked induration in the epigastrium, circular in shape and three inches in diameter. This was exquisitely tender on pressure, and was accompanied by considerable constitutional reaction (temperature, 101·6° F.; pulse, 120). This lasted about a week, and symptoms gradually subsided under constant use of an ice-bag.

In one other case (irreducible femoral hernia) the patient left the hospital in February, 1890. A small mass of omentum had been tied off at the time of the operation. The wound healed quickly and he left the hospital at the end of twelve days. He returned in May, three months later, complaining of dull pain in the right iliac region. By careful deep palpation an indistinct tumor could be felt, apparently in the region of the cæcum. The symptoms were not well marked, and at the end of a week, there being no increase in severity, he was discharged. In August, 1890, six months after the operation, he again returned to the hospital. The tumor was larger and more clearly defined; tender on pressure and deeply seated in the region already described. He complained of pain, loss of appetite, and constipation, and his general condition was evidently impaired.

A second operation was performed, an incision being made over the tumor in the iliac region. The mass was found to be the remains of the omental stump, firmly adherent to the anterior abdominal wall and to adjacent viscera by old plastic exudations that had become organized. The mass was removed and the patient made a good recovery.

Drainage was employed in eighteen of the twenty-four cases. The average time each patient was in the hospital in the cases where drainage was employed was twenty-seven days; where no drainage was used it was only thirteen days and two thirds.

Mortality.—The only fatal cases were two in which the operation was performed for prolonged strangulation. In one case, described at length below, the prognosis was very grave owing to the complication of advanced nephritis and diabetes. In addition, the hernia was umbilical and the portion of intestine strangulated very large.

The very large mass of firmly adherent omentum likewise added to the length and severity of the operation.

The remaining fatal case was that of an infant who was almost in collapse at the time of operation.

The following cases possessing points of special interest are given somewhat in detail:

CASES OF UNUSUAL INTEREST.

CASE I. *Properitoneal Epiplocele with Large Serous Effusion in an "Hour-glass" Sac, resembling a Cystic Tumor of the Abdominal Wall.*—The patient was a woman, forty-two years of age, in good general health until five years previous to admission. At that time, without apparent cause, a swelling appeared in the lower portion of the abdomen on the right side.

The tumor at first was reduced in size by decubitus, but afterward was not affected by position. During the five years she had seven attacks of severe abdominal pain, localized in the region of the tumor and accompanied by nausea and vomiting. During these attacks the tumor always showed a marked increase in size. At the time of operation, January, 1890, the lower portion of the abdomen on the right side was occupied by an oblong tumor, twelve by four inches, extending from two inches above the anterior superior spine of the ilium to the middle of the labium. The skin was normal and the lower half of the tumor was distinctly fluctuating. There was no impulse on coughing and the tumor was dull over the whole area. (See Plate IV, Fig. 1.)

Operation.—A five-inch incision disclosed a sac containing several ounces of clear fluid and extending down into the right labium. Above this sac and connected with it by means of a small lumen was another and larger sac, containing a mass of thickened omentum of the size of the fist and firmly adherent to the neck of the sac.

The omentum was carefully ligated and removed. The stump was returned to the abdominal cavity and the wound closed, free drainage being secured by rubber tubes.

Some suppuration followed, but the patient made a good recovery. The position of the hernial sac was apparently between the transversalis fascia and the overlying muscles.

CASE II.—*Properitoneal Hernia, with Undescended Atrophied Testis; Radical Operation; Castration.*—The patient was thirty-six years of age, and since childhood had noticed a swelling in the right inguinal region. The scrotum had never contained more than one testis. During the last year and a half he had worn a truss, but this had caused considerable pain—so much that he decided to submit to an operation. Examination showed an elliptoid swelling in the right iliac region, extending from just below the level of the anterior superior spine obliquely down to the internal abdominal ring. The tumor was dull on percussion and gave a distinct impulse on coughing, but the size was affected neither by change in position nor by manipulation. (See Plate IV, Fig. 2.)

Operation, January, 1890.—A three-and-a-half-inch incision over the lower portion of the tumor revealed a sac, situated just beneath the muscular plane, containing an atrophied testis. Posterior to this sac and entirely separate from it was found a second larger sac, which contained a mass of adherent omentum. This sac was a true hernial sac, but, instead of following the usual course and emerging at the external ring, it had apparently dissected up between the transversalis fascia and the overlying muscles, and had formed an interparietal pouch. The omentum was firmly adherent at the internal ring.

The adhesions were freed, the mass of omentum tied off, and the stump returned into the abdominal cavity. Recovery was rapid and uninterrupted.

These cases have been given somewhat minutely because they are so exceedingly rare.

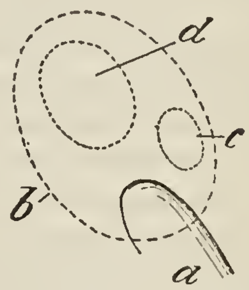


FIG. 3.—*a*, the external abdominal ring; *b*, the sac (the tunica vaginalis) just beneath the external oblique aponeurosis; *c*, the atrophied testis; *d*, the deeper properitoneal sac bulging into the tunica vaginalis and containing omentum.

Dr. Torrey, of Brooklyn, reported a very interesting case in 1888,* and following the report of the case is an excellent summary of the literature of the subject. According to his statistics the total number of cases reported from 1749 to 1888 is 35, with 28 deaths. In a very large number of these cases the diagnosis was not made until the autopsy, and in some cases distinguished surgeons had failed to recognize the true nature of the hernia at the time of operation.

In Langenbeck's case (1875) a tumor in the right groin had been reduced, but symptoms of strangulation continuing, an operation was performed, on the supposition that the reduction had been *en masse.* A portion of the intestine was found gangrenous. This was resected and the remainder of the loop returned into a cavity which the surgeon supposed was the abdominal. The patient died, and the autopsy showed the intestines had been simply returned to a properitoneal pouch, situated between the parietal peritonæum and the fascia transversalis.

In addition to Dr. Torrey's case, another was reported by Dr. Hartley, of New York, in 1887,† which resulted in recovery. Both cases presented symptoms of intestinal obstruction following the reduction of a previously existing hernia. The reduction in Dr. Torrey's case was nine days, and in Dr. Hartley's case five days, prior to the operation. In the former case stercoraceous vomiting had existed for five days, and the patient was almost in collapse at the time of the operation. In one case the pouch was situated between the transversalis fascia and the overlying muscles, while in the other it was found between the parietal peritonæum and the fascia transversalis.

---

* *Annals of Surgery*, 1888, p. 160.

† *New York Medical Journal*, April 23, 1887.

Although this form of hernia is so seldom met with, still the failure to recognize it early is fraught with such serious consequences to the patient that it becomes a duty to render the diagnosis as clear as possible. The cases that have been reported thus far have been almost entirely intestinal. It is quite possible that omental herniæ of this variety may occur as frequently, but, being less liable to become strangulated, they would be less likely to be recognized.

In a large number of the cases the hernia was of the congenital type, and associated with an undescended testis. In fact, some writers—*e. g.*, Streubel—are inclined to give a distinctly causal relation to this fact, believing that the testis in the canal offers sufficient obstruction to change the direction of the hernial progress. The same would be true of an imperfect truss.

The undescended testis and the imperfect truss are undoubtedly important, if not the only factors, in the production of this variety of hernia. In regard to the diagnosis I am able to add but little. The accompanying photographs (see Plate IV) show the external appearance in the cases described. I have seen one other case at the Hospital for the Ruptured and Crippled, in which the probable diagnosis of a reducible properitoneal hernia was made. After apparent reduction a distinct tumor could be felt in the right iliac region. On further manipulation, this disappeared within the abdominal cavity, reduction having been obtained by pressure downward and inward.

Points in Diagnosis.—The previous history of hernia, reducible at first; the presence of an undescended testis in the canal, or anything else that might offer a mechanical obstruction to the further descent of the hernial sac—*e. g.*, a hydrocele of the cord (or of the canal of Nuck in the female), or an ineffective truss—one or more of these conditions associated with a tumor in the iliac region would enable one to make a *probable* diagnosis of properitoneal hernia.

The first case of Dr. Bull's is the only one I have found reported occurring in a woman. In this case the hydrocele of the canal of Nuck, gradually increasing in size, undoubtedly furnished the obstruction which caused the hernia to dissect upward, forming a pouch in the intermuscular layers.

Case III. *Strangulated Direct Inguinal Hernia, with very Acute Symptoms; Operation; Recovery.*—The patient, a male, nineteen years of age, had had no previous history of hernia. While making a strong effort to pass urine (having been obliged to retain it for a long time) he felt something give way in the right inguinal region, and at the same time a swelling of about the size of an egg appeared. He was seized with sudden and excruciating pain, quickly followed by nausea and vomiting. He was brought to the hospital an hour later almost in a state of collapse.

There was a tumor in the right inguinal region of the size of a hen's egg, but not extending into the external ring. The skin was reddened, and tenderness was very marked. (Operator, Dr. Coley.)

A three-inch incision disclosed a hernial sac containing considerable yellow serum, and a knuckle of small intestine four inches in length, moderately congested. The constriction at the neck of the sac was exceedingly tight, and had to be very freely divided with a blunt-pointed bistoury before the intestine could be returned. The wound was closed in the usual way and prompt recovery followed.

Case IV. *Very Large Strangulated Umbilical Hernia, complicated with Diabetes and Chronic Parenchymatous Nephritis; Operation; Death.*—D. M., aged sixty-three, female, born in Ireland. Her general condition had long been very poor. Her urine before the operation contained four and a half per cent. of sugar and a large amount of albumin, with hyaline, granular, and waxy casts.

She had been suffering from an umbilical hernia for eighteen years, reducible in part until thirty-six hours previous to operation. There was present in the region of the umbilicus a tumor of the size of a man's head, irregular in shape and very tense. The skin was reddened and the tumor was partly dull and partly tympanitic on percussion. She complained of severe abdominal pain, and vomiting was frequent and slightly fæcal in character. The pulse was rapid and weak and the temperature 101° F.

A five-inch median incision showed a hernial sac containing a large mass of thickened and infiltrated omentum, which completely surrounded a piece of small intestine, six inches in length, inclosing it in a second omental sac.

The intestine was considerably congested and darker than normal, but regained its normal color on removing the constriction.

A mass of omentum of the size of two fists was ligated and removed. The patient did well for three days and then had a severe attack of œdema of the lungs which rapidly proved fatal.

Case V. *Large Congenital Cæcal Hernia; Radical Operation; Recovery.*—The patient, a boy sixteen years of age, had a congenital hernia on the right side with rapid increase in size during the last six months. A truss had been tried but had proved ineffectual. At the time of operation there was present a tumor occupying the right half of the scrotum and extending up into the inguinal canal (three and a half by seven inches).

Operation, March 8, 1890.—On opening the sac, the cæcum, with a very short vermiform appendix, presented; and just below this was seen the testicle, slightly atrophied. The cæcum was dissected off from the posterior attachment, leaving a raw surface, two by three inches in area, not covered by peritonæum. This allowed the testis sufficient freedom to be drawn down into the scrotum.

There being no true sac, from the nature of the hernia, the outer layer of the peritonæum was sutured and the remainder of the wound closed in the usual way.

Recovery was prompt, and at the present time, thirteen months after operation, he has had no recurrence.

Case VI. *Large Irreducible Scrotal Epiplocele; Omentum Ligated; Secondary Inflammation of the Stump.*—The patient, a German, twenty-one years old, entered the hospital in February, 1890, with a scrotal hernia of the size of a cocoanut. He had been unable to reduce it for three months. At the operation the sac was found to contain a large mass of adherent omentum. This was ligated with strong silk at the neck of the sac and removed, the stump being returned into the abdominal cavity. During the fourth week a tumor of about the size of an orange appeared in the epigastric region. This was hard, exquisitely tender, and unmistakably intraperitoneal. The temperature rose to 101·5°, and the pulse became rapid and weak. The tumor increased in size and the symptoms in severity for two or three days, at the end of which time there was a gradual remission, and two weeks later they had entirely disappeared.

Case VII. *Large Irreducible Cæcal Hernia; Operation; Recovery; Subsequent Recurrence.*—J. D., a man, thirty-nine years of age, was admitted on May 17, 1890. He had had a hernia for four years, which had been reducible until a month previous to his entering the hospital. The right half of the scrotum was occupied by a large tumor extending up into the inguinal region (twelve inches in its longest diameter). There was a distinct impulse on coughing, but the tumor could not be reduced. The upper portion was resonant and the lower dull.

A five-inch incision disclosed a sac containing the cæcum and about eighteen inches of the colon, which were bound by old and very firm adhesions to a large mass of omentum. There was no true hernial sac. The adhesions were separated with great difficulty, leaving large areas of raw surface. The hæmorrhage, which was free, was controlled by the cautery. The omentum was ligated and removed and the intestine returned to the abdomen. It was impossible to close the canal satisfactorily, for the hernia had almost entirely obliterated it. A large glass drain and iodoform tampon, extending into the abdominal cavity, were left in the wound.

Recovery was somewhat delayed by the sloughing of the scrotal portion of the sac, which in this instance was not removed. The patient has been kept under observation since. He had a recurrence shortly after the operation, and at present the hernia is of about half its former size and controlled by a truss.

CASE VIII. *Strangulated Inguinal Hernia; Operation; Death.*—I. S., nine months old, male, was brought to the hospital on May 22, 1890, with the history of a swelling in the left groin since birth, increasing in size and finally becoming irreducible. Symptoms of strangulation developing, an operation was performed. A loop of small intestine an inch and a half in length was found in the sac. It was moderately congested, but soon regained its normal color on removing the constriction. The patient's condition was very bad at the time of the operation, but he rallied well under stimulants. On the following day the temperature rose to 105°. It continued high, and on the third day death ensued.

CASE IX. *Strangulated Inguinal Hernia; Perforation of Intestine; Recovery.*—The patient, a man, sixty-five years of age, had had a hernia twenty years, which had become strangulated two days previous to his admission. At the time of the operation there was a tumor of the size of a hen's egg in the left inguinal region. This was resonant on percussion and very tender. The whole abdomen was tympanitic and distended. The temperature was 100·4° and the pulse 136. The operation was performed soon after his admission. The hernial sac con-

TABLE OF REMAINING CASES.

Diagnosis.	Age.	Sex.	Duration.	Size.	Truss.	Operation.	Wound healing.	Time in hospital	Drainage.	Remarks.
1. R. i.	17	F.	2 yrs.	Walnut.	None.	End of sac sutured in canal.	Primary union.	21 d.	Horsehair.	
2. L. f.	26	M.	6 yrs.	"	Truss.	Usual method.	" "	17 d.	"	Omentum tied off.
3. L. i.	33	M.	1 d.	Fist.	"	" "	Some suppuration; sinus.	60 d.	Two rubber.	
4. L. i.	33	M.	9 yrs.	"	"	" "	Primary union.	21 d.	"	" "
5. R. i.	19	M.	3 mo.	Egg.	"	" "	" "	13 d.	"	" "
6. R. i. (incarc. 4 days).	40	F.	5 yrs.	Walnut.	"	" "	" "	30 d.	Glass.	Four punctures made in gut.
7. L. i.	31	M.	2 yrs.	Egg.	"	Usual method; sutures and ligature all silk.	" "	15 d.	No drain.	Omentum ligated.
8. R. i., irreduc.	42	M.	12 yrs.	Fist.	"	Usual method.	Primary union; tube sinus.	70 d.	Rubber drain.	Omentum tied off.
9. F. h.	47	M.	8 wks.	Egg.	None.	" "	Primary union.	10 d.	Iod. gauze "	
10. L. i.	24	M.	8 mo.	Fist.	Truss.	" "	" "	15 d.	No drain.	
11. R. i.	21	M.	1½ yr.	Egg.	"	" "	" "	10 d.	"	
12. R. f., irreduc.	50	M.	2 yrs.	"	"	" "	" "	12 d.	Rubber.	Omentum tied off; subsequent inflammation of stump.
13. L. i.	25	M.	?	Fist.	"	" "	" "	65 d.	"	Omentum tied off; subsequent inflammation of stump.
14. L. i.	36	F.	6 yrs.	"	"	" "	" "	24 d.	"	
15. R. i.	20	M.	9 yrs.	Walnut.	"	Usual method; undescended testicle.	" "	41 d.	"	Testicle removed.
16. R. i., irreduc.	17	M.	10 yrs.	Fist.	"	Usual method.	" "	18 d.	"	Double hour-glass contraction.
17. Double i.	34	M.	2 yrs. 1 mo.	Small.	"	" "	" "	20 d.	Drain on one side, no drain on the other.	
18. R. f.	24	F.	2½ yrs.	Walnut.	"	" "	" "	11 d.	Iod. gauze drain.	Omentum tied off.
19. R. i.	20	M.	5 yrs.	Small (canal only).	"	Neck of sac twisted and sutured in canal.		11 d.	No drainage.	Large mass of omentum tied off; subsequent inflammation of stump.
20. R. i., irreduc.	34	M.	Congenital.	Two fists.	"	Sac twisted and sutured in canal.	" "	23 d.	Rubber.	Large mass of omentum tied off; subsequent inflam.
21. Double i.	11	M.	1 yr.	Very small.	"	Sac not found.	" "	16 d.	No drainage.	
22. R. i.	20	M.	4 yrs.	Egg.	"	Sac twisted and sutured in canal.	" "	12 d.	"	
23. R. i., irreduc.	32	M.	Congenital.	Fist.	"	Sac contained testicle; tunica shut off with catgut ligature.	" "	12 d.	Rubber.	Omentum tied off.
24. R. i., complicated with hydrocele of cord.	55	M.	?	Small.	None.	Large hydrocele of cord with small hernia above.	" "	11 d.	"	

tained a small amount of bloody serum, together with a knuckle of small intestine about four inches in length. This was greatly congested, and one portion, about an inch in diameter, was of a very dark color and denuded of its peritoneal coat. A perforation was found in the center of this area, from which a small amount of fæcal matter escaped. The opening was closed with catgut sutures and the sac ligated high up and removed. The wound was closed by the usual method. Recovery, rapid and uninterrupted, followed.

Case X.—*Strangulated Inguinal Hernia; Hydrocele of the Cord; Operation; Recovery.*—The patient, a man, fifty-three years of age, was admitted on April 10, 1890. He had had a hernia for five years, which had been reducible until twenty-four hours previous to his admission. Symptoms of strangulation quickly developed, and an operation was performed soon after his entrance (operator, Dr. Coley). The right inguinal region was occupied by a tumor of the size of a cocoanut, dull on percussion, very tender, and not reducible with a moderate amount of manipulation. A three-inch incision over the canal exposed a sac containing about an ounce of clear serum. Posterior to this was a second larger sac containing a loop of small intestine, four inches in length, and a small quantity of dark, bloody fluid. The intestine was of very dark color, but became nearly normal after the constriction had been divided, and was returned to the abdomen. The first sac was not connected either with the hernial sac or with the tunica vaginalis, and was evidently an encysted hydrocele of the cord.

An uninterrupted recovery followed, notwithstanding the fact that the patient was very alcoholic.

The accompanying table contains a summary of the remaining cases.

(*To be continued.*)

A CASE OF HOMONYMOUS HEMIOPIC HALLUCINATIONS,

WITH LESION OF THE RIGHT OPTIC TRACT.

By G. E. de SCHWEINITZ, M. D.,

OPHTHALMIC SURGEON TO THE PHILADELPHIA HOSPITAL; OPHTHALMOLOGIST TO THE ORTHOPÆDIC HOSPITAL AND INFIRMARY FOR NERVOUS DISEASES.

Dr. Frederick Peterson (*New York Medical Journal*, January 31, 1891) contributes a most interesting and instructive article describing, in addition to his previous work on visual hallucinations in chronic delusional insanity, a case in which the phenomenon of hallucinations occurred in the dark fields of hemianopsia. This account recalls a somewhat analogous case which I have seen and in part described. In the *Journal of Nervous and Mental Diseases* for May, 1887, there is reported a series of cases illustrating various forms of hemianopsia and other irregularities in the field of vision. Case V of this list was that of a patient aged twenty-nine, in good health until his twenty-first year, when he began to have asthma. Some months before his admission to the University Hospital there was morbid sleep, and a month later a convulsion, general in character, followed by a number of similar attacks, until he became irrational and violent, remaining so for twenty-four hours. The examination of the eyes demonstrated slight optic neuritis and left lateral hemianopsia, the dividing line passing in advance of the fixing point. The preserved fields were much contracted. The patient had repeated seizures of the character previously described, during the intervals exhibiting delirium of grandeur, and finally became so violent that it was necessary to send him to an asylum.

At the time the case was reported I was not aware of what I subsequently ascertained in another examination—namely, that preceding the hemianopsia this patient had seen visions of chairs, tables, and other articles of furniture, not really present, in the fields which afterward were obliterated. The hemianopsia was then complete, and although he told me of these hallucinations, for he was then quite rational, he was not able to state positively whether they disappeared immediately after the hemianopsia set in, or whether they remained for some time in the dark half-fields. I have referred to the hallucinations in this case in an article on Headache Associated with Unusual Visual Phenomena (*University Medical Magazine*, vol. i, p. 456).

After the man passed from my observation he was confined in an insane asylum and died. At the post-mortem, made by Dr. Dercum, there was found gummatous infiltration at the base of the brain pressing upon the right optic tract, in association with more or less œdema of the pia mater, and meningitis. I am not aware that any lesion of the occipital lobe was present; in fact, from the symptoms it was not probable that one would be found, and the clinical diagnosis of syphilitic meningitis with pressure upon the right optic tract had been made.

Dr. Peterson, commenting upon the various types of hemiopic hallucination which have been seen in chronic brain disease, divides them into simple transitory hallucinations, announcing the onset of an organic lesion which rapidly produces complete blindness on one side, as in Dr. Seguin's original case, and those which are projected into the dark fields and last from a few days to a few months. The case to which I have referred belongs to the first class, the hallucinations being transitory and preceding the advent of the hemianopsia. Whether or not they continued for a time in the dark fields after the full development of the hemianopsia was not certainly ascertained.

In the examples of headache with unusual visual phenomena which I have described (*loc. cit.*), it may be interesting to note that the hallucination in one case, which appeared as the very constant prodrome of an attack of migraine, consisted of the form of a member of the patient's household, and always manifested itself on the left side. In another case in which the visions were either mice or dogs, the apparent objects were stated to be seen only upon the right side, or, as the patient said, only with the right eye. In none of these cases, however, was there hemianopsia.

The Death of Dr. Paul H. Kretzschmar, of Brooklyn, took place at his home on Monday, April 27th. He is said to have had Bright's disease, but the end was sudden, and is reported to have been precipitated by an attack of influenza. The deceased, who was forty-three years old, was a German, but came to this country at an early age and received his medical education at the Long Island College Hospital, Brooklyn, of which city he soon became a successful practitioner and a citizen of well-known public spirit. At the time of his death he was a member of the board of supervisors of the County of Kings, and in that capacity he had distinguished himself by his endeavors to check the extravagant expenditure of the public funds.

THE
NEW YORK MEDICAL JOURNAL,
A Weekly Review of Medicine.

Published by
D. Appleton & Co.

Edited by
Frank P. Foster, M. D.

NEW YORK, SATURDAY, MAY 2, 1891.

THE WASHINGTON MEETING OF THE AMERICAN MEDICAL ASSOCIATION.

The forty-second annual meeting of the American Medical Association, beginning on Tuesday of next week, in Washington, gives promise of being well attended and of proving profitable and agreeable to those who take part in it. On all occasions the physicians of Washington have shown themselves to be possessed of unusual capabilities in the way of making their visiting brethren comfortable, and the people of the District in general have joined with them heartily in hospitality. To our mind, this state of things, more than the fact that Washington is the capital of the nation, is at the bottom of the increasing disposition shown of late years to hold important medical meetings in that city. For a like reason perhaps—although other arguments have been the ones mentioned—there has been some talk recently of making Washington the "permanent home" of the American Medical Association. This scheme, we presume, involves the acquisition of a building devoted to the association's work, or at least of quarters for its library. It is more or less intertwined, moreover, with the project of transferring the publication of the association's *Journal* from Chicago to Washington, although the latter step may be taken quite independently of the former. Both propositions seem to us to call for the fullest consideration before they are acted upon.

Probably the proposal to transfer the *Journal* to Washington will first engage the association's serious attention; indeed, it is almost sure to come up at the approaching meeting, for action has been taken by the trustees of the *Journal* to refer it to the general meeting of the association. It is not easy to form a decided opinion as to what action the meeting will take on this question, for the considerations that will lead men to vote either way are diverse. Doubtless many will be influenced by sectional feeling, but this is not all-pervading; we find so pronounced a Western man as Dr. Comegys, of Cincinnati, advocating the removal, and a journal so distinctly Eastern as the *Albany Medical Annals* declaring that the arguments advanced in favor of the measure do not "carry with them an overwhelming amount of conviction." There are many who will dissociate themselves from considerations of sectional pride and ambition when so important a proposition comes actually to a vote, and will act from convictions or intuitions having nothing in view but the welfare of the association so far as it is bound up with the conduct of the *Journal*. These views will naturally be conflicting, and, unless those held on one side of the question are found to preponderate decidedly, it would not be strange to see the whole matter postponed, so far as decisive action is concerned, or recommitted to the board of trustees, perhaps with instructions.

MINOR PARAGRAPHS.

ACCIDENTAL HÆMORRHAGE DURING THE LAST MONTHS OF PREGNANCY.

In the *Brooklyn Medical Journal* for October, 1890, Dr. J. L. Kortright has a paper on this subject. The diagnosis has to be made between this condition and placenta prævia, hysteria, colic, syncope, collapse from any cause, and rupture of the uterus. Accidental hæmorrhage is extremely fatal to the fœtus, and places the mother in great jeopardy. Its cause is some slight accident to an enfeebled anæmic or albuminuric woman. The symptoms are collapse, great pain, feeble uterine contraction, and increased uterine tension, with or without external hæmorrhage. When the case is seen early, delivery should be accomplished as rapidly as possible. When the case is seen late, one may rupture the membranes and wait for the presence of uterine contractions.

HYSTERIA WITH PAROXYSMAL INSPIRATORY SPASM.

The *Johns Hopkins Hospital Bulletin* for December, 1890, contains an account of a patient of Dr. Hoch's, a Russian, who began to produce peculiar spasmodic sounds after a fit of anger in October last. These are loud gasping noises during inspiration that frequently prolong it. They come on at intervals, and vary in intensity. Hysterical coughs, cries, and sneezing come on with expiration. Paroxysmal inspiratory spasm is closely allied to hysterical singultus and yawning, which are frequently inspiratory. Echolalia and coprolalia are classed by French writers among the *tics convulsifs*, and are not to be considered in any particular as muscular spasms. In a case that lasted for several years, similar to this Russian's—no sound being emitted, however, and the spasm being more clonic than tonic—the patient recovered under hygienic and psychic treatment.

MEDICAL WOMEN IN INDIA.

According to the *Revue générale de clinique et de thérapeutique* for October 15, 1890, during the academic year 1889 there were twenty-four women students at the medical college in Calcutta, eleven at Campbelle, five at Cuttack, and thirty-nine at the University of Madras. Seven women at Ayra have obtained licenses to practice, and nineteen at Lahore. In Bombay, Poonah, Ahmedabad, Hyderabad, and elsewhere in India there are also women studying medicine.

THE LOCAL USE OF OIL OF WINTERGREEN IN RHEUMATISM.

The *Mercredi médical* mentions that Dr. Staples, of England, has for the past four years been using oil of wintergreen in the local treatment of rheumatic affections, subacute and chronic. He employs a liniment of equal parts of oil of wintergreen and olive oil, afterward keeping the member covered, and says that the pains disappear at the end of from four to six hours. It is, moreover, efficacious in the chronic form. Of over a hundred patients so treated, two only have received no benefit.

ANOSMIA.

The *Gazette des hôpitaux* for July 31, 1890, records a case without other apparent cause than frequent attacks of coryza. To the patient, flowers, tobacco, stale eggs, rank cheese, musk, burnt flannel, smoking lamps, burning fat, beer, coffee, and rancid butter were without odor. The taste was normal—salty, sweet, bitter, and acid substances being readily distinguishable. There was no history of traumatism, such as a blow at the root of the nose. The family history was good.

THE MEDICAL AND SURGICAL REPORTER.

In the last number of this well-known Philadelphia weekly Dr. Charles W. Dulles announces his withdrawal from the editorship, which he has held for the last four years—for the first few months in conjunction with the late Dr. N. A. Randolph. Dr. Dulles has, in our opinion, distinctly raised the character of the *Reporter*, and we regret the necessity of his withdrawal.

ITEMS, ETC.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported during the two weeks ending April 28, 1891:

DISEASES.	Week ending April 21.		Week ending April 28.	
	Cases.	Deaths.	Cases.	Deaths.
Typhus	1	0	0	0
Typhoid fever	9	3	9	2
Scarlet fever	183	42	188	34
Cerebro-spinal meningitis	5	5	6	4
Measles	313	28	427	18
Diphtheria	102	44	73	29
Small-pox	2	0	1	1
Varicella	12	0	6	0
Whooping-cough	2	0	0	0

A Clairvoyant Outwitted.—A correspondent sends us the following newspaper anecdote: "The faith of certain Bangor believers in the powers of the so-called clairvoyant physicians has been shaken by a recent incident. It is one of the boasts of these physicians that if a patient sends them a lock of his hair they can prescribe a proper treatment. In order to test this point a number of wags in a near-by town cut a few locks of fine hair from a dog's tail and sent it by mail to a well-known Bangor clairvoyant, signing a lady's name to the letter. After a few days a reply came from the doctor, declaring she had some serious internal trouble, which could be cured only by placing herself under his care or that of his wife. He further said that allopathic malpractice had caused her trouble. The young men who practiced this imposition are now having a good deal of fun at the doctor's expense."

The District Medical Society of Central Illinois held its seventeenth annual meeting in Pana on Tuesday, April 28th, under the presidency of Dr. W. P. Buck, of Moawequa. The programme announced reports and papers by Dr. J. A. Prince, of Springfield; Dr. F. P. Norbury, of Jacksonville; Dr. T. J. Whitten, of Jacksonville; Dr. W. H. Sparling, of Moawequa; Dr. W. J. Eddy, of Shelbyville; and Dr. Amos Sawyer, of Hillsboro.

Appointments in the New York State Lunatic Asylums.—An open competitive examination of candidates for junior assistants and female physicians in the State hospitals for the insane will be held by the State Civil Service Commission at the Capitol, in Albany, on June 11th. Candidates must be residents of the State and must have had a year's hospital experience or three years' experience in the general practice of medicine.

The New York Clinical Society.—The programme for the last meeting, on Friday evening, April 24th, included a paper on The Nature of the Productive Inflammation of Connective Tissue, by Dr. H. M. Biggs; and one on Renal Disease due to Intrapelvic Obstruction, by Dr. H. C. Coe.

St. Bartholomew's Hospital and Dispensary.—The second annual report of this institution, situated in Carmine Street, shows continued good work. It is devoted chiefly to cutaneous and venereal diseases.

Changes of Address.—Dr. George W. Crary, to No. 152 West Fifty-seventh Street; Dr. M. L. Foster, to No. 7 East Forty-first Street; Dr. F. C. Husson, to No. 12 West Thirty-ninth Street; Dr. Herbert F. Williams to No. 363 Grand Avenue, Brooklyn.

Army Intelligence.—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from April 19 to April 25, 1891:*

BUSHNELL, GEORGE E., Captain and Assistant Surgeon, Camp Pilot Butte, Wyoming, is granted leave of absence for twenty-one days, to take effect on or about May 1st next. Par. 9, S. O. 49, Department of the Platte, Omaha, Neb., April 20, 1891.

WOODHULL, ALFRED A., Major and Surgeon, is, by direction of the Acting Secretary of War, detailed to represent the Medical Department of the Army at the International Congress of Hygiene and Demography at its meeting in London, England, from August 10 to 17, 1891. He will leave his present station not later than June 1, 1891, and will proceed to London. After the adjournment of the Congress he will return to his proper station. While abroad under this order, and before returning to the United States, he will visit on official business such points in Great Britain as may be deemed necessary by the Surgeon-General of the Army. Par. 17, S. O. 91, A. G. O., Washington, D. C., April 22, 1891.

KNEEDLER, WILLIAM F., Captain and Assistant Surgeon, is, by direction of the Acting Secretary of War, relieved from duty at Jackson Barracks, Louisiana, and will report in person to the commanding officer, Fort Logan, Colorado, for duty at that post, reporting also by letter to the commanding general, Department of the Missouri. Par. 2, S. O. 88, Headquarters of the Army, A. G. O., Washington, April 18, 1891.

Naval Intelligence.—*Official List of Changes in the Medical Corps of the United States Navy for the week ending April 25, 1891:*

MCMURTRIE, D., Medical Inspector. Detached from Navy Yard, New York, and ordered to the U. S. Steamer Lancaster.

KERSHNER, EDWARD, Medical Inspector. Detached from Marine Rendezvous, and ordered to Navy Yard, New York.

HERNDON, C. G., Surgeon. Detached from Naval Hospital, New York, and ordered to the Marine Rendezvous.

GARDNER, JAMES E., Passed Assistant Surgeon. Ordered to Naval Hospital, New York.

Society Meetings for the Coming Week:

MONDAY, *May 4th:* German Medical Society of the City of New York; New York Academy of Sciences (Section in Biology); Morrisania Medical Society (private); Brooklyn Anatomical and Surgical Society (private); Utica Medical Library Association; Boston Society for Medical Observation; Boston Medical Association (annual); St. Albans, Vt., Medical Association; Providence, R. I., Medical Association; Hartford, Conn., Medical Society; Chicago Medical Society.

TUESDAY, *May 5th:* American Medical Association (first day—Washington); New York Obstetrical Society (private); New York Neurological Society; Elmira Academy of Medicine; Buffalo Medical and Surgical Association; Ogdensburgh Medical Association; Hudson, N. J. (annual—Jersey City), and Mercer, N. J. (annual), County Medical Societies; Connecticut River Valley Medical Association (Bellows Falls, Vt.); Androscoggin, Me., County Medical Association (Lewiston); Baltimore Academy of Medicine.

WEDNESDAY, *May 6th:* Medical Society of the State of Washington (first day—Seattle); Rocky Mountain Medical Association (Washington); American Medical Association (second day); Society of the Alumni of Bellevue Hospital; Harlem Medical Association of the City of New York; Medical Society of the County of Richmond (Stapleton), N. Y.; Medical Microscopical Society of Brooklyn; Essex, Mass., North (annual—Haverhill), and Plymouth, Mass. (annual), District Medical Societies; Penobscot, Me., County Medical Society (Bangor).

THURSDAY, *May 7th:* Medical Society of the State of Washington (second day); American Medical Association (third day); New York Academy of Medicine; Brooklyn Surgical Society; Society of Physicians of the Village of Canandaigua; Medical Society of the County of Orleans (semi-annual—Albion), N. Y.; Ocean, N. J. (Tom's River), County Medical Society; Obstetrical Society of Philadelphia; United States Naval Medical Society (Washington); Boston Medico-psychological Association.

Friday, *May 8th:* Medical Society of the State of Washington (third day); American Medical Association (fourth day); Yorkville Medical Association (private); German Medical Society of Brooklyn; Medical Society of the Town of Saugerties.

Saturday, *May 9th:* Obstetrical Society of Boston (private).

Proceedings of Societies.

NEW YORK SURGICAL SOCIETY.

Meeting of March 11, 1891.

The President, Dr. Charles K. Briddon, in the Chair.

Trephining for Traumatic Aphasia; Recovery.—Dr. Charles McBurney presented a patient, a physician, aged thirty-three, who, in August, 1889, was thrown heavily from his buggy. When picked up he was partially conscious, becoming entirely so shortly afterward and being then sufficiently recovered from the shock to administer a hypodermic to one of his patients and to converse rationally. Toward the evening of the same day, however, he became entirely unconscious and was hemiplegic on the right side. He remained unconscious for three days, during which time he lost control of his sphincters. On consciousness returning, it was found that he was suffering from aphasia, with paralysis of the right leg and the lower portion of the right arm. After three weeks there was some slight restoration of motion in the right foot and the ability to make slight extension of the forearm. Control over the sphincters was normal and the appetite was good, all the other symptoms persisting. At the end of three months there was some ability to utter sounds, and apparent intelligent appreciation of printed matter, but articulation was utterly unintelligible and the intellectual faculties were undoubtedly greatly disturbed. The patient had come under the care of the speaker three months after the date of the injury. At this time he could make some motion in the right foot, and, when supported, some effort at locomotion. The right pupil was diminished in size, but the right side of the face was otherwise unaffected. There was an apparent partial appreciation of what was said to him, but the intellect was very much obscured.

The speaker had called on Dr. Starr to assist him by making out the exact character of the lesion, and without his invaluable aid he should have felt unwilling to go on with any surgical treatment of the case. The conclusion was that hæmorrhage had occurred, shortly after the accident, on the left side of the head, affecting that area of the brain which controlled the faculty of speech and those of motion and sensation in the right arm and leg. It was also believed that this hæmorrhage existed on the surface of the brain and not on the internal capsule, and that the general symptoms indicated a cortical and not a deep lesion.

An operation was performed a year ago last December with a view of exposing the speech center, and, if necessary, of following up the exploration to the arm and leg centers, in the search for the suspected superficial clot. After making a large flap, the trephine was applied seven eighths of an inch behind the angular process of the frontal bone on the left side. The middle meningeal artery ran directly across the space thus exposed. There was no clot outside the dura mater, which was then incised and the middle meningeal artery ligated. There then protruded a soft, pulpy, cystic-looking mass which it was decided must be œdematous pia mater. Anterior to this œdematous portion the pia and the brain presented the normal appearance, but behind and above this the pia was dark red and looked as if it covered the thin edge of a distinct clot. The opening in the skull was enlarged in an upward and backward direction by means of the rongeur forceps, and the dura laid open by suitable incisions until the entire surface of the clot was exposed. Thus an irregular piece of bone 3½ × 2¾ × 1¾ inches was removed. The long axis of this area was along the fissure of Rolando, and the greatest breadth was backward from this fissure. The area of densest blood clot was in the course of the fissure of Rolando, and along this the pia was incised from the lower extremity of the fissure to the highest point uncovered by bone. An old blood clot was found dipping down into this fissure, and spread over the neighboring convolutions, especially the middle part of the postcentral convolution. This portion consisted of a very delicate layer of coagulum, and was removed by gently rubbing the surface of the brain with a soft wet sponge. In this way the clot which extended down between the convolutions was removed, as well as that on the surface, and with no apparent laceration of the brain tissue. All hæmorrhage was carefully checked by applying ligatures of fine catgut to bleeding points. The dura was sewed up with fine catgut, except at the middle of the incision. The scalp incision was closed, except at the middle, with a continuous silk suture. Loose iodoform packing was introduced, forming a soft mass filling the cavity from the surface of the brain to the level of the cutaneous surface. An absorbent antiseptic dressing was applied, so arranged as to exert but little compression. After the brain had been exposed by the removal of so large an area of bone, the frontal portion had settled down and back, leaving a remarkably large air space between the brain, covered by pia, and the skull lined by dura. On the evening of the same day the patient was able to utter the first words spoken by him since he had become unconscious, some hours after the injury. At the end of a week he was able to move his leg, and in three months to walk with the aid of a stick. His right arm was now improved, but its action was sluggish. The aphasic symptoms had steadily diminished and the patient was constantly acquiring new words, was now able to converse, and had resumed his professional work, driving his horse alone. His intellect was now absolutely clear. That this improvement was to continue to the point of physiological re-establishment of all the normal functions of the parts implicated in the hæmorrhage the speaker was unwilling to assert, but he did look for much improvement still to come, and believed that the patient's chances were extremely good.

Dr. M. Allen Starr said that the case had seemed to him specially interesting because of the possibility of making a pretty positive diagnosis. If an aphasia was at first total, and then partial recovery ensued, the possibility arose of the existence of subcortical lesion or lesion in the course of the speech tract between the third frontal convolution and the medulla. But in this case the aphasia had remained total for three months, and hence it was thought that the lesion must be cortical and located in the posterior part of the third frontal gyrus. The location of the paralysis pointed to the central convolutions in their middle portion as the seat of the lesion. Another interesting feature in this case, which had served to throw light upon a disputed point, was the fact that there had been throughout a slight degree of anæsthesia in the paralyzed limbs. This pointed to the acceptance of the theory that the sensory and motor areas in the cortex coincided. The lesion found thus threw a light on the localization of the tactile sense. The success which had so far attended the case was no doubt due to the prompt action taken by Dr. McBurney when the patient came under his care. The reason why the patient was not completely restored was the delay of four months between the time of the injury and the operation. It could therefrom be deduced that, where a cortical lesion could be diagnosticated, the case should be dealt with surgically within four weeks after the injury, and that the sooner the operation was performed the better were the chances of recovery. There was no doubt that degeneration had progressed in a number of cells and of fibers in the speech area, and therefore he was not yet quite well. The case was also interesting for observation as to whether there would be complete regeneration in the motor tract; such regeneration was apparently in progress, as the power was constantly improving.

In reply to a question by Dr. Stimson as to whether other lesions of the brain would cause aphasia, Dr. Starr said that, according to the teachings of Broca in 1861, it was necessary, in order to produce disturbances of speech, that the third frontal convolution should be injured. This conclusion had, however, been modified. At present it was necessary to distinguish three separate forms of aphasia and lesions producing them. In the first place, motor aphasia, such as the patient had suffered from, was due to a lesion of Broca's convolution, in which there must be ability to recognize the meaning of words, but inability to articulate. The power of understanding a word when uttered was different from the power of articulation, and had been shown to be a function of the first and second temporal convolutions, about an inch behind and below Broca's center. Lesions in this locality give rise to sensory aphasia, or word-deafness. This form was often met with by surgeons in patients with disease of the mastoid cells and complicating abscess of the brain; and in it the patient could not speak, because he could not recollect the words with which to express himself. The third form was associated with lesions situated farther back in the occipital and parietal lobes, and was accompanied by that form of aphasia known as word-blindness, in which the individual was unable to recognize printed language. All cases of word-blindness were complicated in part with word-deafness. The connection between the occipital and temporal lobes was so close that one could not be injured without inhibiting the action of the other. Hence a lesion in three different localities gave rise to three different forms of aphasia.

Dr. R. F. Weir called attention to the depth to which the large cicatrix was depressed, and thought that this in itself might in certain cases give rise to considerable pressure. He also referred to a case of idiopathic aphasia with successful trephining by Lucas-Championnière.

Dr. McBurney said that the depth of the cicatrix at present represented that at which the brain was found depressed by the clot. The brain did not fill up the space left by the removal of the clot. It was several days before pulsation was restored.

Dr. Lewis A. Stimson said it was necessary to distinguish between the different forms of pressure to which the brain was liable. In such an injury as had been described the effects were due to hæmorrhage causing local compression upon the surface of the brain. A man's skull-cap contained a certain amount of cerebro-spinal fluid, and a depression in the surface of the skull was not necessarily followed by symptoms of compression of the brain. If any of this fluid was lost, the patient was even more likely to continue without pressure symptoms. This was a distinct kind of diminution from that which was produced by pressure upon the cortex.

Laminectomy for Injury of the Cervical Vertebræ.—Dr. A. J. McCosh presented a man, aged thirty-three, who had, while a sailor, been severely injured eighteen months before, when he was supposed to have sustained fracture or dislocation of the fourth, fifth, or sixth cervical vertebra. He had been bedridden for the nine months following the accident. The injury was caused by the fall of a shackle on board ship. This had struck the man upon the head and had doubled him up, bearing his head down upon his breast and flexing his thighs upon his abdomen. He had remained unconscious for the first twenty-four hours, and during the first week had been more or less delirious. He had also been completely paralyzed over the entire body below the clavicles. In May, 1890, the patient had come under the speaker's charge for surgical treatment. There was then marked atrophy of all his muscles. He was unable to raise himself in bed, and when he was held up his head fell forward on to his chest. When he was placed on his feet he could stand with assistance for a few minutes, but could not walk. The left forearm was flexed on the arm, and the whole left upper limb was in a condition of spastic paralysis and utterly useless. He had some use of his right arm, but could not move the fingers or hand. He was never free from pain, which was most severe in his upper limbs, especially the left shoulder and arm. Any movement aggravated the pain. An incision was made starting at the occipital bone and exposing the vertebral column. A distinct curvature was found of the cervical spine to the right and the fourth vertebra was found displaced an inch and a quarter to the left of the median line. No sign of fracture could be discovered. The laminæ of the fifth cervical vertebra were divided and the posterior arch was removed. The dura mater in this region was found to be of a dark-red color and very much thickened. It bled profusely on the removal of the arch of bone to which it had been adherent. The dura was not opened. The wound was left open with the expectation of doing further operative work if the symptoms did not improve. It would be seen from the man's present condition that a great improvement had taken place. He could now get about quite comfortably, could use his arms, and was altogether in a very fair condition. He had walked as far as four miles, and could sign his name with his right hand. In the left upper limb flexion and extension at the elbow were perfect, and he could raise the arm as far as a fibrous ankylosis at the shoulder allowed.

The diagnosis before the operation was that the symptoms indicated pressure on the nerve roots by callus or exudate. It was supposed that in peeling off the posterior arch of the vertebra certain adhesions between the nerve roots and the dura were separated. The recovery had followed so quickly upon the operation that there could be no doubt that the patient's altered condition was due to it.

Dr. Robert Abbe thought that there existed no evidence that the operative work had been such as to bring about relief of pressure. Probably there had been some preceding inflammatory process with irritation of the dura, and its relations to the bone were altered by the operation. Dercum and White had recently reported a case in which a patient had been entirely relieved from a condition of paraplegia and hyperæsthesia by the removal of the laminæ and the opening of the dura, which was at once closed without further interference. In this case adhesions between the dura and the pia and arachnoid were found. This patient had recovered and could walk well at the end of a year. The symptoms in the case just presented were those of hæmatomyelia with moderate extravasation and some meningitis. Progress toward recovery would probably have gone on in this case. The operators he had referred to had thought that their patient's recovery was due to altered circulation in the parts involved.

Gastro-enterostomy.—Dr. Weir presented a specimen taken from a patient recently operated upon by him for the formation of a gastro-enteric opening. There had been symptoms of pyloric stenosis for several years, with, latterly, increasing signs of starvation. There was nothing to lead to the belief that the stenosis was due to a malignant cause. He operated with the use of Abbe's catgut rings, making an opening nearly two inches and a half long. Outside the rings, after they were tied, the usual additional Lembert sutures were applied. The pylorus was the seat of fibrous stenosis, presenting but a moderate increase in size. Within a few hours after the operation the patient was seized with vomiting of considerable black material, the character of which led him to believe that there had been failure in the technique of the adjustment of the Abbe rings which he had employed, and that some hæmorrhage was going on; for during the operation it had been noticed that there was some slipping outward from between the rings, after they had been tied, of a portion of the apposed surfaces; but this was covered in by the last row of stitches. This imperfection had also been observed when using Senn's plates. In the present case the patient's stomach was washed out with cold water repeatedly, but the bleeding continued, and death ensued on the third day. It would be seen on examination of the specimen that the criticism which had been passed upon Abbe's rings to the effect that they were liable to twist upon themselves and form a figure of eight, and thus set up trouble, was not sustained in this case. The rings had worked perfectly in holding the peritoneal surfaces in apposition. The one in the stomach had already nearly dissolved, and that in the intestine was in good position. Though he had employed a two inch-and-a-half opening at the operation, yet the specimen showed, when fresh, that union had occurred at each end, so as to leave only about an inch and three quarters free.

A Large Gall-stone producing Complete Intestinal Obstruction.—Dr. Abbe showed a gall-stone, measuring four inches in circumference and an inch and a third in diameter, which he had removed from the intestine of a female patient. She had been taken with vomiting two weeks before the operation, and had vomited a small gall-stone. Symptoms of intestinal obstruction speedily set in. The speaker was called after ten days of exhausting vomiting and performed laparotomy. He found the abdomen filled with greatly distended small intestine, and, lying in the midst, a small coil of pale and empty bowel. On following this from the ileo-cæcal valve upward the obstruction was found to be absolute at a point three feet from the valve. Here the huge gall-stone was tightly packed, and dammed up a flood of liquid fæces above it. An incision was made just above the stone, and it was readily removed. The linear incision was then closed with the finest black silk and Lembert sutures.

Ulceration of the Stomach; Gastrotomy.—Dr. Abbe also presented a specimen of ulcerated stomach. The patient in this case had been brought to the hospital with the history of having during the previous month suffered from hæmatemesis to the extent of some thirty ounces. When she was admitted to the care of Dr. Peabody, on the medical side, her temperature was normal and there was no vomiting, though she was very anæmic. On the third day, however, her temperature had risen and there was some pain in the epigastric region. The stomach and bowels were not much distended, and there was but little rigidity of the abdominal muscles. She was given morphine to make her comfortable. Forty-eight hours afterward vomiting again set in and her temperature rose to 105° F. The ice coil was applied. The case was then sent to the speaker, on the surgical side, and he concurred in the opinion that there was sufficient evidence of impending perforation to warrant interference. Laparotomy was accordingly undertaken. On examination of the stomach, its anterior wall appeared normal and free from ulcerated spots or any evidences of possible perforation. The posterior aspect of the stomach was examined thoroughly through a rent made in the anterior omental fold, and it presented nothing suspicious. A hardness of the pylorus was thought to be felt, and an incision an inch and a half long was made in the anterior wall of the stomach, near the pylorus. A finger passed into the opening found the pylorus normal. It was now observed that through this opening the mucous membrane of the empty stomach could be brought into view, and little by little almost the entire lining membrane was inspected. No ulcerations were discovered, although what afterward were proved to be shallow ulcers were passed under inspection. Their appearance was not strikingly different from that of the rest of the membrane. The wound of the stomach was sutured and the abdomen closed. The temperature fell to normal that evening, and the patient seemed better. On the following morning her temperature rose from almost normal to 105°, and she had watery, bilious vomiting. The temperature went on rising till it reached 109°, when the woman died. A few hours before death she had a recurrence of hæmatemesis from an unhealed gastric ulcer. At the autopsy some peritonitis was found. There was a little dark blood in the stomach. On both the anterior and posterior walls of the stomach several shallow ulcerations were found, most of them cicatrized, but some in a condition of slight ulceration. These were so shallow and velvety that they did not appear strikingly different from the mucous membrane, and even at the autopsy were distinguished with much difficulty. There was no present or impending perforation. The case certainly illustrated how easy it was, as a simple operative procedure, to attack an ulceration of the stomach if clinical conditions warranted it. Of course, the vast majority of cases of ulceration of the stomach would be better treated medically, but there were impending urgent conditions which might call for interference. The speaker argued that a freer incision into the stomach, say of three inches, would facilitate accurate and speedy search, without increasing the risks.

Symmetrical Gangrene of the Feet.—The President presented a man, fifty years old, a veterinary surgeon, formerly a police officer, with the following history: When he was a boy both his feet were severely injured, one being crushed by a stone and the other stepped upon by a horse. When he was seventeen years old both feet were frost-bitten. A few years afterward he noticed small, round ulcers appearing on the little and fourth toes of each foot. These ulcers would heal when treated, but returned repeatedly in a similar manner on the same toes. Gradually similar ulcers formed on all the other toes of both feet. He had lived a very exposed life, and his feet had been frost-bitten several times and otherwise injured while he was on the police force. In June, 1887, a plank fell upon his right foot with crushing force, and since then that foot had been even more subject to ulceration than formerly. In July he entered the Presbyterian Hospital for treatment of ulcerated areas upon the first and second toes of his right foot. There were sinuses discovered leading to necrosed bone. The sinuses were curetted and the diseased bone was scraped with the sharp spoon. In about ten days the fore toe was amputated at the first phalangeal articulation, and the second toe soon after was amputated at the metatarso-phalangeal articulation. Both wounds healed kindly, and he was discharged apparently cured. In the following September he was readmitted, and similar ulcers were found on the left big toe, which was amputated at the first phalangeal articulation. The former operation cicatrices seemed healthy.

In January, 1890, ulcers formed upon the third and fourth toes of the right foot and the second toe of the left foot. All three toes were amputated at the middle of the second phalanx with favorable results.

In October the fourth toe of the left foot was amputated at the metatarso-phalangeal articulation, and also a gangrenous area was excised from the plantar aspect of the right foot near the metatarso-phalangeal articulation of the first toe. Healing was very slow, and the use of Thompson's solution of phosphorus was advised. An eczema caused by the use of bichloride of mercury externally had been observed on various occasions.

At present he had returned for treatment of a sinus near the base of the second toe of the left foot, and an ulcerated area on the plantar aspect of the right foot near the metatarso-phalangeal articulation of the first toe, in the center of which area there was a sinus leading to necrosed bone in the vicinity of the first metatarsal bone.

An incision was made two weeks ago over this area and the unhealthy tissue was removed with the sharp spoon. No bone was excised then. The wound healed kindly. The sinuses still discharged purulent material.

The speaker thought it extremely doubtful whether the injuries referred to in the history of this case ought to be looked at in any other light than as excitants. The amputations were not done in his service; in fact, he believed they were all done by the members of the house staff, and, unfortunately, no microscopic examinations were made of the parts removed. There were no macroscopic changes in the vessels leading to the affected members and no evidences of gross lesions of the nerves. The local asphyxia had always been a pronounced feature, and it was visible in the upper extremities as well. There had been no history of malarial disease that would warrant a belief in the existence of the infarcts met with in such a condition, no syphilitic history that would lead to the suspicion of endarteritis, and no evidence of atheroma or general arterial fibrosis. Raynaud's disease, a dry gangrene affecting the extremities characterized by a remarkable tendency to symmetry and depending upon an error in the innervation of the capillary vessels, had been excluded by a careful examination made by Dr. George W. Jacoby, who had made a study of the subject, and who had published the result of his investigations in a paper read before the New York Neurological Society on January 6 1891, and published in the *New York Medical Journal* for February 7, 1891. The speaker had been impressed with the idea that the alterations of nutrition in the deep and superficial parts of this man's feet were due to changes in the innervation of the capillary vessels, but believed that the precise character of those lesions could only be made out by a careful microscopic examination of the capillary system.

Section of the Intestine for the Removal of a Gall-stone.—Dr. McBurney presented a specimen of gall-stone, and narrated the following history: The patient from whom he had removed the stone was a woman, aged forty-three years, who had suffered for a long time with what had been diagnosticated as cancer. Her case had at length become so alarming that she had come to New York and under the speaker's care for treatment. At that time she had lost sixty-three pounds in weight and was in very bad shape. He concluded from the history of the case that gall-stone was the cause of the trouble, and decided to operate. An incision was accordingly made on the right side, four inches in length, under the tenth rib, alongside the rectus muscle. The first object that came into view after the peritonæum was opened was the omentum, which was curled up and was attached to the liver. This was drawn away, exposing the transverse colon and the thin edge of the liver. He then began a search for the gall-bladder. After breaking up some not very dense adhesions and coming to where the gall-bladder should be, he failed to find it. The incision gave complete control of the region under examination, and he could readily handle all the organs within the exposed area, but there was no gall-bladder. There was a period in the history of the case in which a considerable tumor had been present, but this tumor had disappeared and had never returned. On examining the duodenum he found directly behind it a very dense mass, but was not at first able to make out whether it was a gall-stone lying in the cystic duct or a new growth, or some change at the head of the pancreas. By careful manipulation and by exploring it with a round needle he succeeded in demonstrating that it was a gall-stone in the cystic duct. It could have been removed by incision of the duct, but he was doubtful of the possibility of safely closing the incision after its removal, and therefore decided to approach it through the duodenum. The latter was then opened on its anterior aspect by a longitudinal incision, and it was then very interesting to see how prominently the duct showed as a cylinder raising the mucosa for some distance before it opened into the intestine. Not being able to introduce a probe into the orifice, he cut through the mucosa into the duct and slit it upward. With a dull instrument he had then enlarged this canal, and by pressure with his fingers outside pushed the stone into the intestine and removed it. There was no hæmorrhage. The incision into the intestine was sewed up in the usual manner. The patient had made an unbroken recovery. She was fed three days by the rectum. The speaker had not met with any case of this kind before. It had been a question in his mind whether he ought to proceed with this operation or let matters alone, upon the possibility of the stone ulcerating its way out more safely.

Dr. Weir said that, if left to go through an ulcerative process, the liver was liable to damage from the continued obstruction, and there were also the dangers attending the ulceration into the intestine, and the final risk of the gall-stone causing intestinal obstruction. He called attention to the fact that some five cases had already been reported (three by Thornton and two by Courvoisier) where the common duct had been incised, the stone extracted, and the wound sewed up, with successful results.

Reports on the Progress of Medicine.

GENERAL MEDICINE.

By JOHN WINTERS BRANNAN, M. D.

The Pathology and Treatment of the Pyrexia of Phthisis.—Dr. C. Theodore Williams makes some practical remarks on this subject in the *British Medical Journal* of March 28th. Pyrexia, he says, is often a most troublesome symptom in both acute and chronic phthisis. In a large proportion of cases it is the principal unfavorable symptom. Its chief feature is the uniformity of the afternoon rise. On the other hand, the temperature descends very low in the early morning. Of the many theories put forward to explain the process of fever, Dr. Williams is inclined to adopt that of Dr. MacAlister as best meeting the difficulties which surround the subject. Dr. MacAlister divides the factors of fever into three: 1. The thermolytic or heat-discharging mechanism. 2. The thermogenic or heat-producing mechanism. 3. The thermotaxic or heat-adjusting mechanism. Heat is discharged throughout the whole fever—during its rise, its continuance, and its defervescence—the discharge taking place through the skin and through respiration. Heat is produced in the body by the oxidation of tissues, chiefly of muscle, the thermogenic function of muscle being independent of the contractile function, and continuing during rest, though somewhat increased by contraction. Heat-production in the muscle is carried on under the influence of a twofold nervous mechanism—the one part exciting to thermogenesis, and the other part staying thermogenesis. The thermogenic tonus is the manifestation of the normal balance between these parts.

The temperature of phthisis, according to Dr. Williams, is due to a combination of fever and collapse influence. If these are equally balanced, a chart hardly differing from the normal results; if collapse prevails, subnormal temperatures appear; and if the febrile process is in the ascendant, pyrexia shows itself. The formation of tubercle may not cause great variation in the temperature chart from the normal, but any variations which occur take a particular form. Thus the temperature of tuberculization is characterized by a considerable range, varying from 94° to 103° F., by afternoon pyrexia, and by subnormal early morning temperatures. The subnormal temperatures may be looked at as instances of the thermolytic agency, where heat is being discharged in the form of night-sweats. In the afternoon pyrexia we see the thermogenic influence giving rise to that wasting of tissues, especially of muscle, which is so characteristic of phthisis. We appear to have more thermogenic influence in the afternoon and evening, and more thermolytic in the night and early morning, while the whole chart seems to lack the thermotaxic control shown in the thermogenic tonus.

The pyrexia of tuberculization, if the latter is limited in extent, is best dealt with by derivative measures, such as counter-irritation, and salines promoting secretion from other organs and assisting expectoration. Vesication, especially with cantharides, is more efficacious than poulticing or painting with iodine. In some cases the addition of arsenic or quinine to the usual tonic will suffice to reduce temperature. The best form of expectorant is the effervescing carbonate of ammonium, to be given two or three times a day, to which may be added from four to five minims of wine of antimony and the same amount of tincture of aconite. This, with the ordinary precaution of rest in bed during the fever rise, reduces the heat in a great proportion of cases of tuberculization. Where these measures fail, quinine, given in an effervescing form in from three- to five-gr. in doses, just before and during the rise of the temperature, is advisable. Salicylate of sodium or salicin may also be tried.

The treatment of the pyrexia of softening and excavation of tubercle is much more difficult, as here we have to deal with suppurating surfaces out of surgical reach, from which resorption of pus and septic products with tubercle bacilli is constantly taking place. There is consequently infection of fresh tracts of the lung, so that we have to treat suppurative fever and the pyrexia of tuberculization in the same individual. Of the various antipyretics, Dr. Williams prefers acetanilide. As a rule, two doses a day of five grains each, given at noon and at 4 P. M., will keep the temperature within moderate bounds. A record of the temperature is kept, and, if it rises above 100° or 101°, a powder is at once given; but if the record remains below this, it is omitted. He has administered acetanilide in these doses to hundreds of consumptives without the slightest evil result. Tepid sponging of the body sometimes gives great refreshment to the patient. Chapman's spinal ice-bag, applied for a few hours when the temperature rises above 100°, reduces the fever decidedly for the time.

In conclusion, Dr. Williams mentions two agencies which sometimes prove powerful antipyretics. One is confinement to bed. This he has seen by itself reduce temperature to the extent of two or three degrees. The other is sleep, which will lower the temperature two degrees and more at a time without any medicines. He does not think it advisable to use drugs solely directed to lowering the temperature of the body without promoting increase in the natural secretions. Our object should be, not the reduction of the temperature at all hazards, but its lowering to the limits compatible with the comfort and well-being of the patient.

The Ætiology of Bright's Disease.—Dr. Agnes Bluhm publishes in the *Deutsches Archiv für klinische Medicine* for January 8, 1891, the results of her study of the cases of Bright's disease treated in the canton hospital at Zürich during a period of five years. Her attention was especially directed to the ætiology of the disease. She recognizes three forms—namely, (1) acute diffuse nephritis, (2) chronic diffuse parenchymatous nephritis, and (3) diffuse interstitial nephritis. There were 140 cases of acute diffuse nephritis, the majority of which (70 per cent.) were caused by acute infectious diseases. Dr. Bluhm notes that the occurrence of the nephritis did not seem to depend upon the severity of the primary disease. This was especially marked in the cases complicating typhoid fever. In none of the fatal cases of typhoid was death due to the accompanying nephritis. In pneumonia, also, the course of the lung affection was not apparently influenced by the process in the kidneys. Acute nephritis was observed in seven cases of erysipelas, all of which ended in recovery. It occurred eight times in the course of chronic infectious diseases—namely, chronic tuberculosis (five cases) and syphilis (three cases). Exposure to cold was the apparent cause of four cases of acute Bright's disease. Dr. Bluhm believes that the importance of "catching cold" as an ætiological factor of Bright's disease has been much overestimated. She considers it at most only a contributing cause. Chronic diffuse parenchymatous nephritis was observed forty times. In the great majority of these cases no positive cause for the disease could be found. This is easily explained by the slowly developing, latent character of the chronic affection. When the patient comes under the care of the physician it is usually too late to obtain an accurate account of the first symptoms of the disease. Exposure to repeated changes of temperature and to wet may perhaps be allowed a more important place than in the ætiology of the acute affection. The development of chronic parenchymatous nephritis from the acute form is seldom seen. The author records one case of this kind following scarlet fever. One case of chronic nephritis of the parenchymatous form occurred in a patient convalescing from epidemic parotitis. There were but two other cases in which acute infectious disease was followed by Bright's disease of this variety.

There were ninety cases of chronic diffuse interstitial nephritis. The ætiology was almost as obscure as in the preceding class. A very few apparently resulted from the acute infectious diseases. Many cases gave a history of previous polyarthritis. In 11 per cent. syphilis and in 18 per cent. arterio-sclerosis were given as the probable causes of the disease. Three cases were attributed to lead poisoning and three to alcoholism.

The Treatment of Pneumonia.—Dr. W. Soltan Fenwick gives in the *Lancet* for January 31 and February 7, 1891, an analysis of a thousand cases of acute primary lobar pneumonia which were treated at the London Hospital between the years 1880 and 1890. Those cases in which the temperature ranged above 103° are for convenience classified as "sthenic," those in which the temperature remained below 103° are considered as "asthenic" in character. The treatment of the sthenic cases was of three kinds: 1. Expectant, consisting of the application of hot poultices to the chest and the internal use of expectorant and tonic remedies. Of the 493 cases in this class, 116 were fatal, or 23 per cent. 2. With quinine, consisting entirely of the use of quinine in large doses, 12 to 40 grains a day. Of 52 cases, 11 died, or 21 per cent. 3. Antipyretic. These cases were combated upon general antipyretic principles, similar to those employed in the treatment of other acute specific fevers. Only 10 cases were treated with antipyrine and phenacetin, hence the inquiry is confined to the results which attended the systematic efforts to control the symptom of fever by direct abstraction of heat. The various measures resorted to were the use of—

1. The ice bag. Of 26 patients so treated, 4 died, or 15 per cent.
2. The cold pack. Of 26 patients, 4 died, or 15 per cent.
3. Cold sponging. Of 65 patients, 8 died, or 12 per cent.
4. The ice-cradle. Of 43 patients, 3 died, or 7 per cent.

There were 285 cases of asthenic pneumonia. Of these, 240 were treated in the ordinary way with poultices, stimulants, and tonics; the deaths were 76, or 32 per cent. In 45 cases the treatment was supplemented by large doses of quinine; the mortality was 20 per cent.

In summing up the foregoing results, Dr. Fenwick observes that the termination in the fatal cases was almost invariably directly due to failure of the heart. There are two factors which are capable of producing the condition of cardiac insufficiency—an increased resistance to the propulsive action of the heart, and a progressive deterioration of its muscular substance. In acute pneumonia both these factors are present; the former in the increase of tension in the pulmonary circuit consequent on the consolidation of a portion of the lung, and the latter as a direct result of high temperature. The action of these two forces is to compel the heart to beat more forcibly and more quickly, while at the same time it is steadily deprived of the power to do either. Treatment should therefore be directed to one special object—viz., to economize cardiac force by minimizing the injurious influences of fever. He believes that this is best accomplished in the sthenic cases by the use of cold sponging or the ice-cradle.

In pneumonia of the asthenic type cold should not be employed, but the treatment should be stimulating.

Dr. Fenwick adds, in conclusion, that the quantity of albumin in the urine during the first three days is of considerable prognostic value; of patients with a quarter albumin, 32 per cent died; of those with a third, 52 per cent. died; and of those with a half, 82 per cent. died.

Changes of the Blood in Acute Articular Rheumatism.—The following are the conclusions of Professor Maragliano (*Gazzetta degli ospitali*, March 22d) resulting from his examinations of the blood of fifteen patients:

1. The rheumatic infection is characterized by a profound alteration of the red corpuscles.

2. This alteration affects both the central mass and the periphery of the corpuscle and is of two kinds, chromatic and morphological.

3. There is oligocythæmia.

4. There is no real leucocytosis. The relation between the white and the red corpuscles being modified by the destruction of the latter, there is an apparent increase of the leucocytes.

5. The destruction of the red corpuscles was proved by numerous examinations made throughout the course of the disease. In all of the examinations the number of the white corpuscles remained almost unchanged, while that of the red globules diminished perceptibly with the progress of the malady.

6. The alteration is proportionate to the duration of the infection, to the height of the temperature, and to the general condition of the patient.

7. If the heart is affected, the changes in the blood incident to that complication are to be added to those caused by the rheumatism.

8. The restoration of the red corpuscles, when the disease has ended, is very slow and uncertain.

The Gastric Secretion in Diabetes Mellitus.—Rosenstein (*Berliner klinische Wochenschrift*, 1890, No. 13; *Centralblatt für klinische Medicin*, April 4, 1891) has made numerous tests of the gastric secretion in diabetes mellitus, supplemented in several cases by post-mortem examination of the mucous membrane of the stomach. In one series of cases the reaction of free hydrochloric acid was very inconstant—at one time positive, again negative—and he regards this intermittent absence of the acid as indicating a neurosis of the stomach. This neurosis of the gastric secretion, like the uncertain behavior of the patellar reflex and the other neuroses in diabetes, appears to bear no direct relation to the severity of the case, at least in so far as concerns the amount of sugar or acetone in the urine.

In another series the test for hydrochloric acid gave a uniformly negative result. Such of these latter cases as came to autopsy showed anatomical changes of the gastric mucous membrane. There was widespread atrophy of the glandular tissue due to interstitial gastritis.

The Cold-bath Treatment in Typhoid Fever.—Dr. F. E. Hare reports, in the *Practitioner* for March, his results in the treatment of typhoid fever by Brand's method. He had exceptional opportunities for comparing the expectant treatment with the cold-water treatment during his four years and a half service as resident physician of the Brisbane Hospital, Queensland. During the first third of this period the treatment was expectant, though quinine was at times freely used in antipyretic doses. Only two or three patients were bathed, but cold sponging was frequently used and the cold wet sheet in cases with persistent high temperature. Of 586 patients thus treated, 85 died, a mortality of 14·50 per cent.

On January 1, 1887, the cold-bath treatment was introduced, and every case which required it, according to Brand's rule, was subjected to a systematic course of cold bathing in the absence of the usual contra-indications (perforation, peritonitis, and intestinal hæmorrhage). Quinine was also given in doses of from three to seven grains, every three hours, as a cardiac stimulant in those cases in which the pulse-rate tended to exceed 120 a minute. Alcohol was also used in severe cases.

Under this treatment there were but 92 deaths in 1,173 patients admitted to the hospital, a mortality of only 7·84 per cent. Dr. Hare presents tables showing the comparative effect of the treatment on the various special causes of death, such as intestinal hæmorrhage, broncho-pneumonia, cerebral affections, etc.

The following are his chief conclusions:

1. By means of the bath treatment, systematically employed, the hospital death-rate of typhoid may be greatly reduced.

2. The reduction should amount to 50 per cent. on the previous death-rate, and the percentage mortality to admissions should not be over 8 per cent.

3. The success is in proportion as the treatment is begun early.

4. The treatment, as shown by the undiminished occurrence of perforation and hæmorrhage, and by the fact that early admission has failed to render them less frequent, has no influence on the depth of the ulceration.

5. Since a constant percentage (about 4·5) of the patients admitted die from these accidents, no reduction in the general mortality much below 5 per cent. can be expected from the treatment.

6. As the result of the different liability of the sexes to these accidents, the prognosis under the bath treatment is much more favorable in females than in males.

7. On the whole, the lethal influence of the intestinal lesion is diminished; the treatment effects this (*a*) directly by moderating diarrhœa, and (*b*) indirectly by sustaining the powers of the patient, thereby enabling him to recover from the effects of the hæmorrhage and other intestinal conditions not necessarily fatal.

8. The bulk of the reduction in mortality is due to the prevention of those complications and modes of death which, being common to the febrile state, however induced, are termed pyrexial. Thus (*a*) fatal pneumonia has been less than one fourth as frequent, this being chiefly due to the rarity of the bronchial form; (*b*) brain complications have been less fatal, and brain symptoms (delirium, stupor, etc.) enormously reduced in frequency; while (*c*) it is no exaggeration to say that simple cardiac failure would have been practically expunged from the list had all the patients admitted come under treatment during the first week of the disease.

The Diagnostic Value of the Physical Sign "Tracheal Tugging" in Thoracic Aneurysm.—Dr. R. Lea MacDonnell, of Montreal, has recently (*Lancet*, March 7 and 14, 1891) called attention to a method of examination which he says is of great aid in diagnosticating aneurysm of the transverse arch of the aorta. It was first described by Surgeon-Major W. S. Oliver in 1878, but has never come into general use. The process is as follows: "Place the patient in the erect position and direct him to close his mouth and elevate his chin to the fullest extent; then grasp the cricoid cartilage between the finger and thumb and use gentle upward pressure on it, when, if dilatation or aneurysm exist, the pulsation of the aorta will be distinctly felt transmitted through the trachea to the hand. The act of examination will increase laryngeal distress should this accompany the disease." The physical sign is known as "tracheal tugging." With a view of forming a just estimate of its value, Dr. MacDonnell has collected the histories of all the cases of thoracic aneurysm recorded in the case-books of the Montreal General Hospital since 1878, omitting those in which the absence or presence of tugging was not definitely noted. The cases are twenty-three in number, and to these he has added two observed in private practice. In seventeen of the twenty-five cases tracheal tugging was noted. An autopsy was obtained in eight of the seventeen confirming the diagnosis. After a careful analysis of the twenty-five cases, Dr. MacDonnell feels warranted in making the following statements:

1. Tracheal tugging is never present except in aneurysm.

2. When tracheal tugging is present, the aneurysm is so situated as to press from above downward on the left bronchus, or upon that portion of the trachea immediately adjacent to it.

3. Tracheal tugging may be present when many other physical signs and symptoms are absent.

4. Tracheal tugging does not occur in aneurysms which do not involve the transverse arch.

5. Direct pressure on the trachea does not cause tracheal tugging.

Dr. MacDonnell adds that tracheal tugging is a very early sign in the history of the case. In all the cases in which it was present it was detected on the patients' admission to the hospital.

Pancreatic Diabetes.—Rendu discusses this subject in *La Semaine médicale* of March 28th. His remarks were inspired by a case under observation at the Necker Hospital. It was that of a coachman, forty-five years old, of previous robust health, who, for two months past, had noticed a marked failure of strength, accompanied with great emaciation. His appetite was enormous and his thirst excessive. At the time of his entrance into the hospital he was passing seven litres of urine a day, containing eighty-three grammes of sugar to the litre. Two weeks later, in spite of all treatment, the quantity of urine had increased to thirteen litres daily, with forty grammes of sugar to the litre. The amount of urea excreted was also much above normal, varying from fifty to fifty-six grammes in the twenty-four hours. All his organs appeared to be sound, his digestion was good, and the bowels were regular. His mental condition was perfect, and the only symptoms referable to the nervous system were persistent insomnia and complete loss of sexual desire.

Rendu regarded the case as a typical example of diabetes due to disease of the pancreas. He classifies as follows the various affections characterized by the appearance of sugar in the urine:

1. Temporary glycosuria. It is often caused by overexertion, especially cerebral. It is also seen in acute diseases, or as a result of poisoning by various substances, such as coal gas. It is due to congestion of the medulla oblongata and is not a true diabetes.

2. Diabetes of nervous origin. This corresponds to the glycosuria produced by puncture of the floor of the fourth ventricle. It may be called the functional expression of a lesion of the medulla. Luys has found, on autopsy of diabetics, a marked congestion of the floor of the fourth ventricle.

3. Constitutional diabetes. This is of two varieties—gouty, or *diabète gras*, and pancreatic, or *diabète maigre*. The first variety is seen in persons who are gouty either by inheritance or by acquired taint. It continues for years without affecting the health, and alternates or coincides with other arthritic or gouty manifestations, such as eczema, migraine, and epistaxis. Such individuals are often asthmatic. They may be diabetic a long time without suspecting it. Thirst may be absent. The malady is revealed by other symptoms, the indirect effects of diabetes—*i. e.*, an eruption of furuncles, itching in the genital region, or insomnia. The quantity of urine is not above 5 litres, with a maximum of 30 to 40 grammes of sugar to the litre. There is no emaciation. The amount of sugar is quickly modified by treatment. Ætiologically, apart from heredity or arthritism, we almost always find a moral cause, such as mental shock, loss of money, etc., so that the nervous system has here also an important rôle.

4. Pancreatic diabetes. In this form there is no diathesis, no predisposition. Without apparent cause the patient is suddenly affected with fully developed diabetes. Polydipsia is not the only symptom of the invasion. There are sometimes intestinal disturbances, paroxysmal diarrhœa, and ill-defined chronic enteritis with rapid enfeeblement. There may be fatty stools, or vertigo, or somnolence, or insomnia. Premature and absolute impotence should make us think of diabetes, unless the patient has general paresis or ataxia. Besides the great exaggeration of thirst and appetite, there is an unusual sense of fatigue, at first physical, then intellectual; the patient falls into complete apathy. The moral depression may be the first symptom of this form of diabetes. The quantity of urine is very large, as well as the amount of sugar to the litre. There is azoturia in proportion to the glycosuria. There are premature trophic disturbances—falling of the hair and loss of the teeth. In this form the development of tuberculosis is often seen. The lesions of the pancreas are various, but all ending in its destruction. There may be atrophy or sclerosis; the size may be normal, but the glandular element altered or destroyed. Obliteration of the excreting canals has been seen, caused by calculi, neoplasms, or abscess. Removal of the pancreas in dogs produces veritable diabetes with polyuria, glycosuria, and emaciation.

Clinically there exist relations between the two forms; a gouty individual may have diabetes with emaciation. In the same family the mother may have a *diabète gras* and the daughter a *diabète maigre*. The ætiological conditions also are often the same.

Pathologically the observations are not all in harmony. Bar and Picq have reported seven cases of cancer of the pancreas without glycosuria; on the other hand, Boumaine has given instances of *diabète gras* with lesions of the pancreas. Remond removed the pancreas without causing diabetes. Lépine and Hédon maintain that if the pancreas is entirely removed, glycosuria results; if a portion remains, glycosuria may be lacking. It is evident that there is some pathological relation between the pancreas and diabetes, but it is not completely understood. It is also certain that the polyuria and glycosuria after alteration of the pancreas are more abundant than after puncture of the fourth ventricle.

Rendu believes that the clinical distinction between the two varieties should be made, as pancreatic diabetes has a much graver prognosis. All medication is of no avail beyond some slight temporary improvement with opium, antipyrine, arsenic, etc.

The Treatment of Paroxysmal Nerve Disorders.—Dr. Frederick Pearse contributes a short article with this title to the *Practitioner* for January, 1891. He refers, he states, to those diseases characterized by a temporary paroxysm of suffering—such, for example, as asthma, epilepsy, and migraine or sick headache. He believes that a person liable to attacks of asthma should be classed with those persons who have fits of epilepsy, and with those who suffer occasionally from "sick headache." All these patients have unstable nerve centers, liable to explode their energies at any moment, and exhibit the pathological phenomena peculiar to nerve storms. The treatment should be an endeavor to break the habit morbidly acquired by the nerve centers, and by regular prolonged medication to maintain the centers in a state of more stable equilibrium. This is done successfully in the majority of cases of epilepsy, and Dr. Pearse has applied the same principle with success in cases of asthma and severe migraine. He gives chloral and belladonna night and morning or every night at bedtime. In the case of migraine, if the attacks are not very frequent, but recur with some amount of regularity, he orders the remedies to be taken for a few nights before the expected paroxysm. A hypodermic injection of atropine with a small amount of morphine is also very useful in cutting short an attack of either asthma or migraine. In the treatment of epilepsy the bromides are given in large doses three times daily or every night according to circumstances. If cases do not yield to the bromides alone, the addition of chloral and belladonna is advised.

The Diagnosis of Motor Insufficiency of the Stomach.—Leo Silberstein (*Deutsche medicinische Wochenschrift*, February 26th) has recently made a series of experiments in Senator's clinic to determine the value of the salol test in estimating the motor activity of the stomach. The test is based upon the fact that salol, when given by the mouth, is not absorbed in the stomach, but passes on unchanged to the bowel. There meeting an alkaline fluid, it is split up into phenol and salicylic acid, which latter is absorbed and afterward secreted in the urine. Its presence in the urine is detected by its violet reaction with chloride of iron.

Ewald's method was to give 15 grains of salol after the principal meal. Then in thirty minutes the urine was tested for traces of salicylic acid. He found that in healthy individuals the reaction always appeared in an hour at the latest. Any delay beyond this time indicated a slow passing of the salol into the bowel, or, in other words, a motor paresis of the stomach. Brunner, however, showed that Ewald's method was unreliable. His investigations proved that there was no fixed physiological time for the first appearance of the salicylic acid in the urine. In the same individual under like conditions the interval may vary greatly from time to time. These statements of Brunner's were confirmed by Huber, who at the same time observed that in some persons the urine continued to show the presence of salicylic acid for a remarkably long time after the ingestion of the salol. This led him to think that perhaps the time of *disappearance* of the reaction might be more important than that of its *first appearance* in the urine. And, in fact, some experiments based upon this idea enabled Huber to state that an abnormally long duration of the salicylic-acid reaction pointed to a disturbance of the motor activity of the stomach. This theory, in turn, has been attacked by Decker and Pal, who believe that atonic and catarrhal conditions of the bowel may cause the prolonged reaction, though the stomach may be normal in all respects. Silberstein therefore proposed to repeat Huber's experiments, but on a much larger scale, and with special reference to the points raised by Deeker and Pal. He made his first test of the urine twenty-four hours after the salol had been taken, and repeated it at intervals of six hours until he was satisfied that the drug had been entirely excreted. He insists upon the necessity of this procedure, stating that in some cases of marked motor disturbance of the stomach there was no reaction at the end of twenty-four hours, and yet after thirty or more hours had elapsed the reaction appeared. He made upward of 148 different experiments upon 76 individuals, and the following are his conclusions:

1. In healthy persons salol is entirely eliminated from the body within twenty-four hours.

2. In gastrectasia the elimination of the salol is always delayed, the reaction being invariably found after thirty-six hours. This is not the case when the stomach is simply displaced, hence this test serves to distinguish the dilated from the displaced organ, conditions which are easily confounded with each other.

3. In atonic conditions of the stomach there is also usually a delay in the elimination of the salol, but not to the extent noted in gastrectasia. It is the exception to find the reaction after thirty-six hours in cases of atony, whereas it is the rule in dilatation of the stomach. Here, again, this method is of diagnostic importance.

4. The condition of the bowel does not impair in any way the value of the salol test as modified by Huber.

Silberstein admits that Leube's method of examining the gastric contents two hours after a test breakfast is without doubt our best means of judging of the motor activity of the stomach. There are cases, however, in which, for one reason or another, it is impracticable to introduce a tube into the stomach, and in these the salol test may be relied upon as entirely trustworthy.

Miscellany.

Mortality in Cities in the United States.—The following table represents the mortality in the cities named, as reported to Dr. John B. Hamilton, Surgeon-General of the Marine-Hospital Service, and published in the Abstract of Sanitary Reports for April 24th:

CITIES.	Week ending—	Population, U. S. Census of 1890.	Total deaths from all causes.	DEATHS FROM—										
				Phthisis pulmonalis.	Yellow fever.	Small-pox.	Varioloid.	Varicella.	Typhus fever.	Enteric fever.	Scarlet fever.	Diphtheria.	Measles.	Whooping-cough.
New York, N. Y.	April 18.	1,515,301	1,347	127	..	..	..	..	..	3	37	38	23	11
Chicago, Ill.	April 18.	1,099,850	848	60	..	..	..	..	..	25	6	10	10	4
St. Louis, Mo.	April 4.	451,770	....	....	..	..	..	..	..	3	1	6	1	....
St. Louis, Mo.	April 11.	451,770	....	25	..	..	..	..	..	2	3	4	1	....
Boston, Mass.	April 18.	448,477	235	27	..	..	..	..	..	2	1	3	..	1
Baltimore, Md.	April 18.	434,439	194	22	..	..	..	..	..	1	3	2	..	2
San Francisco, Cal.	April 11.	298,997	149	24	..	..	..	..	..	..	..	9	..	....
Cincinnati, Ohio	April 17.	296,908	152	16	..	..	..	..	..	5	..	5	..	...
Cleveland, Ohio	April 4.	261,353	106	11	..	..	..	..	..	3	2	3	2	1
Cleveland, Ohio	April 11.	261,353	142	13	..	..	..	..	..	1	..	2	..	1
Washington, D. C.	April 18.	230,392	178	21	..	..	..	..	..	3	..	1	6	1
Detroit, Mich.	April 18.	205,876	105	5	..	..	..	..	..	..	..	4	..	....
Milwaukee, Wis.	April 18.	204,468	138	6	..	..	..	..	..	2	2	5	2	3
Minneapolis, Minn.	April 18.	164,738	48	....	..	..	..	..	..	..	1	..	..	....
Louisville, Ky	April 18.	161,129	72	8	..	..	..	..	..	2	..	3	1	....
Rochester, N. Y.	April 18.	138,000	48	....	..	..	..	..	..	1	1	1	..	....
Providence, R. I.	April 18.	132,043	52	....	..	..	..	..	..	..	.	2	..	1
Toledo, Ohio	April 17.	81,434	33	1	..	..	..	..	..	..	..	4	..	....
Richmond, Va.	April 18.	81,388	34	4	..	..	..	..	..	..	..	..	..	....
Nashville, Tenn	April 18.	76,168	29	....	..	..	..	..	..	2	..	..	1	....
Fall River, Mass.	April 18.	74,398	47	5	..	..	..	..	..	..	..	..	..	....
Lynn, Mass.	April 18.	55,727	24	2	..	..	..	..	..	..	..	..	..	....
Portland, Me.	April 18.	36,425	8	....	..	..	..	..	..	1	..	..	..	....
Binghamton, N. Y.	April 11.	35,005	17	1	..	..	..	..	..	..	..	..	..	....
Binghamton, N. Y.	April 18.	35,005	14	....	..	..	..	..	..	..	..	..	..	....
Mobile, Ala.	April 18.	31,076	10	4	..	..	..	..	..	..	..	..	..	....
Galveston, Texas	April 10.	29,084	8	....	..	..	..	..	..	..	..	..	..	....
Auburn, N. Y.	April 11.	25,858	10	2	..	..	..	..	..	..	..	..	..	....
Auburn, N. Y.	April 18.	25,858	15	3	..	..	..	..	..	..	..	1	..	....
San Diego, Cal.	Mar. 11.	16,159	5	....	..	..	..	..	..	..	..	..	..	....
Rock Island, Ill.	April 5.	13,634	2	....	..	..	..	..	..	..	1	..	..	....
Rock Island, Ill.	April 12.	13,634	....	....	..	..	..	..	..	..	..	..	..	....
Rock Island, Ill.	April 19.	13,634	5	1	..	..	..	..	..	..	..	..	..	....

Hæmatoporphyrin in the Urine.—A number of cases have recently been recorded in which the iron-free derivative of hæmoglobin, called hæmatoporphyrin, has been descried in the urine. The first recorded observations of this occurrence were made by MaeMunn in June last, and the most recent, by Salkowski, are published in the *Ctrlbl. f. d. med. Wiss.*, 1891, No. 8, p. 129. The three cases mentioned by Salkowski were in women, and one case ended fatally. The cause of the occurrence of this abnormal substance in the urine is supposed by Salkowski to be the administration of sulphonal. This is, however, an abnormal action of the drug, and would therefore appear to be due to individual idiosyncrasy.—*Supplement to the British Medical Journal.*

The Suppression of Quackery in Italy.—During the first half of 1890 the number of complaints of "illegal exercise of the healing arts" brought before the authorities was 843. In 325 of these a conviction was obtained; in 145 the accused were acquitted. What the result was in the remaining 373 cases does not appear, but it is satisfactory to see that at least a considerable proportion of the offenders were brought to justice. It is to be hoped that the penalties inflicted will be sufficient to deter not only the guilty persons themselves, but others from pursuing their evil ways.—*British Medical Journal.*

To Contributors and Correspondents.—*The attention of all who purpose favoring us with communications is respectfully called to the following:*

Authors of articles intended for publication under the head of "original contributions" are respectfully informed that, in accepting such articles, we always do so with the understanding that the following conditions are to be observed: (1) when a manuscript is sent to this journal, a similar manuscript or any abstract thereof must not be or have been sent to any other periodical, unless we are specially notified of the fact at the time the article is sent to us; (2) accepted articles are subject to the customary rules of editorial revision, and will be published as promptly as our other engagements will admit of—we can not engage to publish an article in any specified issue; (3) any conditions which an author wishes complied with must be distinctly stated in a communication accompanying the manuscript, and no new conditions can be considered after the manuscript has been put into the type-setters' hands. We are often constrained to decline articles which, although they may be creditable to their authors, are not suitable for publication in this journal, either because they are too long, or are loaded with tabular matter or prolix histories of cases, or deal with subjects of little interest to the medical profession at large. We can not enter into any correspondence concerning our reasons for declining an article.

All letters, whether intended for publication or not, must contain the writer's name and address, not necessarily for publication. No attention will be paid to anonymous communications. Hereafter, correspondents asking for information that we are capable of giving, and that can properly be given in this journal, will be answered by number, a private communication being previously sent to each correspondent informing him under what number the answer to his note is to be looked for. All communications not intended for publication under the author's name are treated as strictly confidential. We can not give advice to laymen as to particular cases or recommend individual practitioners.

Secretaries of medical societies will confer a favor by keeping us informed of the dates of their societies' regular meetings. Brief notifications of matters that are expected to come up at particular meetings will be inserted when they are received in time.

Newspapers and other publications containing matter which the person sending them desires to bring to our notice should be marked. Members of the profession who send us information of matters of interest to our readers will be considered as doing them and us a favor, and, if the space at our command admits of it, we shall take pleasure in inserting the substance of such communications.

All communications intended for the editor should be addressed to him in care of the publishers.

All communications relating to the business of the journal should be addressed to the publishers.

THE NEW YORK MEDICAL JOURNAL, MAY 9, 1891.

Original Communications.

ON ALBUMINA MINIMA,
TRANSIENT AND DIETETIC,
AND THE SO-CALLED PHYSIOLOGICAL ALBUMINURIA. AND THEIR RELATIONS TO HEALTH AND TO LIFE ASSURANCE.

By HENRY B. MILLARD, M. D., M. A., etc.

Within a few years the fact has been very generally recognized that the existence of serum albumin in the urine is not always accompanied by perceptible changes in health, whence a conclusion has been adopted by many that albuminuria may occur, and even exist persistently, without any organic changes in the kidneys. When albumin is found in apparent health, the difficulty, and often, indeed, the impossibility, of discovering, except where an autopsy is made, any pathological conditions of the kidney to account for it, has tended to establish a theory, as I hope to show, untenable, that albuminuria may exist as a physiological or normal condition. The numerous discussions and papers upon the subject of harmless albuminuria, and the opinions of many prominent writers—among others Senator, Posner, Kinnicutt, Semmola, Saundby, and Johnson—that albuminuria may occur without any pathological conditions of the kidneys, have tended to confirm the belief in the so-called physiological or normal albuminuria. A summary title does not, however, constitute a facile and legitimate method of disposing of a phenomenon not so easily explicable. That albumin may exist as a transient condition, or even persistently for a long time without impairment of the health, has often been observed, sometimes definite causes for its occurrence being easily recognized, while in many cases the ætiology remains obscure or unknown. Albuminuria occurring without a recognizable cause and without apparent derangement of the health, either persistent or occurring irregularly or at intervals, has been variously styled physiological or normal, temporary, intermittent, transient, paroxysmal, cyclic, and dietetic albuminuria, the variety of designations itself indicating inexactitude, and one of them, at least, being inaccurate. In the first edition of my work on *Bright's Disease*, which appeared in 1883, I stated my belief that albumin might occur in the urine as a physiological event. Chateaubourg and Capitan had just published their interesting and extensive experiments for the purpose of demonstrating the occurrence of albumin in healthy subjects under a great variety of circumstances, made under such favorable and varied conditions and on such an extensive scale that, although their *conclusions* were irrefutable, I now consider that they were often based upon inaccurate premises. But numerous experiments made by myself and others since then, with the greatest precautions as regards the accuracy of the tests, show that in an absolutely healthful condition of the genito-urinary tract albumin is not present in anything like the proportion stated by them in the paragraphs on Albuminuria in Healthy Children,* Rest and Fatigue as influencing Albuminuria in the Healthy, Albuminuria in Health and after Food, etc.*

Capitan, in the urine of ninety-seven healthy children from one and a half to eighteen years of age, found albumin in eighty-one specimens; and Chateaubourg found albumin in one hundred and eleven in one hundred and forty-two specimens of the urine of healthy children from six to fifteen years of age. In some cases there was only a trace of albumin, in others it was strongly marked. They found albumin in 82 per cent. of cases of urine passed in healthy soldiers five hours after meals, and in ninety-two specimens out of one hundred and twenty (76 per cent.) of the urine of perfectly healthy soldiers who had exercised less than usual the previous day, the urine being collected at 5.30 A. M. The urine of two hundred and thirty-one soldiers who had undergone severe and prolonged exercise, part on foot and part on horse, showed albumin in two hundred and one cases.

Extremely careful and accurate experiments made by Lecorché and Talamon among others, to which I shall refer more fully, show that albumin when secreted by the kidneys can never be surely predicated to exist in health; in a word, that it is never physiological, but always pathological and dependent upon histological changes in the kidneys. I stated, however, in my work, referring especially to Chateaubourg and Capitan, Vogel, Johnson, Gubler, Ultzmann, and Saundby, that their method of testing in each case is not given; and as they do not state whether microscopic examinations were made, it is impossible to determine that some of the cases at least might have been shown to be cases of slight nephritis. Even though the accuracy and methods of the above-named observers were beyond question, their experiments would not prove albuminuria to be physiological. *Thus far albuminuria has not been shown to exist physiologically.*

Senator † believes that albumin could always be found in the urine, except that there are no reagents sufficiently sensitive always to show it, and that the variations of albumin in the urine are due to oscillations of a physical function and not to a disorder of the function. Posner, indeed, goes so far as to state that he *can* find albumin in all healthy urine. His methods of procedure are, however, faulty. In regard to Senator's opinion, "as to the sensibility of reagents," say Lecorché and Talamon, ‡ "we have seen that with Tanret's and Millard's test albumin can be detected in solutions of 1 part to 200,000 or 300,000—that is, five to three milligrammes to the litre. Urine, supposing that it contains albumin, which gives no reaction with these tests, must then contain less than three milligrammes to the litre. If, then, the renal filtration is such that it will not allow five milligrammes ($\frac{1}{13}$ grain) to pass in twenty-four hours, we may admit that it will not allow the slightest trace to filter through."

---

* Capitan. *Albuminuries transitoires.* Paris, 1883, p. 80.

* Chateaubourg. *Albuminurie physiologique.* Paris, 1883, pp. 53, 61, 86.

† Senator. *Albuminurie.* Author's edition, Paris, 1891, p. 49.

‡ Lecorché and Talamon. *Traité de l'albuminurie et du mal de Bright.* Paris, 1888.

As to the opinion entertained by so many writers that albumin may occur physiologically, I believe that these opinions are due often, first, to a want of absolute capacity on the part of the experimenters to make examinations for albumina minima, to their not always employing the best tests and methods, and to their mistaking other substances for albumin; and, second, that when albumin is found in apparent health, there is too great readiness to assume that no pathological condition exists. In a paper read by me before the Academy of Medicine, in April, 1887, I endeavored to show some of the errors that were likely to occur even in careful testing for albumin, stating that:

> Among the most difficult things to distinguish from albumin are mucin and certain elements always found in urine where there is leucorrhœa, even mild cystitis, cervico-metritis, gleet, etc. Such urine is commonly thought to contain mucus, but, according to Méhu, mucus is seldom, if ever, found in the urine. Epithelia from the various regions, with their detritus, some partially and some wholly disintegrated or dissolved, leucocytes, pus-corpuscles, pyin, and, where there is much inflammation, the serum of the liquor puris, are contained in the urine where there is cystitis, vaginitis, etc. The broken-down and dissolved epithelia contain many protein elements, and these, with the other substances I have just mentioned, give many of the reactions of albumin.

I have myself examined the urine of a large number of patients unaffected by any renal difficulty, making in many cases repeated examinations of the urine of the same patient, the examinations being made with the greatest precautions, without finding a trace of albumin. The urine of many of these patients was examined under a great variety of circumstances, and I should state that the urine was in most cases that of people who consulted me for some derangement of health, some of the patients suffering from cancer of the stomach, ulceration of the stomach, cirrhosis of the liver, gout, dyspepsia, glycosuria, and a great variety of ailments.

In doubtful cases, or where there is only albumina minima, in examining the urine for albumin, I first filter the urine through a double thickness of Swedish filtering paper; the cellulose or vegetable albumin of the gray French paper gives a reaction of albumin with my own test of potash and phenic and acetic acids. If this does not perfectly clarify it, though this is rare, I boil with liquor potassæ or magnesian fluid, and filter again. Then I employ Heller's test by nitric acid, using a test-tube about seven eighths of an inch in diameter. Numerous experiments that I have made with this test have shown me that it will not detect more than $\frac{1}{100}$ of 1 per cent. of albumin, or 1 part in 100,000. If the albuminous line be absent, I resort at once to Tanret's or to my own test. It is quite possible to exclude my own personality when I say that Lecorché and Talamon, after numerous and extensive experiments with the principal tests for albumin in which they devote a good deal of space to my own, sum up by saying that they consider it incontestably superior even to Tanret's in testing for minute quantities of albumin, giving their reasons for their conclusions. They prefer it not only on the score of delicacy, but of accuracy and clearness. My own experience is that this test will show 1 part of albumin in 300,000, Tanret's showing only 1 in 250,000, and that with less certainty.* As to the usefulness of such tests, their *necessity* even is demonstrated in the very class of cases I am now treating of. If Tanret gives a reaction, I consider that the acetic acid contained in this test will produce a reaction with mucin, and confirm it by other tests, as my own. The presence of mucin in slight amount is very misleading. In very mild catarrh of the bladder Tanret's test always produces a reaction which does not disappear by heat.

In the instance where Chateaubourg found albumin in two hundred and one out of two hundred and thirty samples of urine of soldiers, after several hours' exercise on horseback or after eleven miles' marching in the sun, the reaction was produced by Tanret's test. In the words of Lecorché: "This proportion is evidently exaggerated, and the author has arrived at false conclusions by the process he employed in not considering the mucin precipitated by Tanret's test. The cause of error is here pronounced. Muscular fatigue, riding, and marching greatly augment the quantity of mucus contained in the urine. Should there exist slight irritation of the urethra, of the prostate, or bladder, the remains of a clap, or old cystitis, the excitement of marching provokes an abnormal secretion of mucus from the lower urinary passages. This augmentation of mucus is appreciable after exercise even in perfectly well persons, and can readily be shown by citric acid." This mucinuria consecutive to a march explains a large number of so-called cases of albuminuria from muscular fatigue. It accounts for the exaggerated figures given by Chateaubourg and Noorden.

Griswold † found that the urine of twenty-four subjects in good health, examined repeatedly, showed no albumin after walks of three or four miles, vigorous exercise with perspiration, followed by cold baths, showing that, in perfect health, fatigue, even aided by the action of cold water upon the skin, can not or does not always produce albuminuria.

Noorden, however, considers that he found albumin in twenty-three out of fifty-three specimens of urine passed by soldiers after exercise—that is, in 43 per cent. But, if albumin exists as a physiological condition, why is it *so often* absent, and why was it not present in the remaining 53 per cent. of Noorden's cases, and why is it usually absent after exercise and cold baths, as I maintain it to be?

I have made many experiments which have shown this fact. In numerous mild affections of the genito-urinary system the microscope will disclose the presence of blood or pus-corpuscles, which are certain to be accompanied by albumin. Perhaps the most common aberrations from health that we meet with are affections of the digestive system and catarrhal symptoms, yet we never think of pronouncing any of these phenomena physiological or normal.

---

* The followin is the composition of my test; it is used in the same manner as Tanret's:

℞ Acid. phenic. glacial. (95 per cent.) ..... ʒ ij;
Acid. acet. puri....................... ʒ vij;
M. Add liquor potassæ.................. ℥ ij ʒ vj.

It is important that the glacial carbolic acid should be used, or the mixture, which should be quite clear, will be turbid.

† Griswold. Phila. *Med. News*, June, 1884.

It is true that serum albumin may exist in the urine transiently or permanently in moderate amount without perceptible derangement of the health. But how numerous are the cases of organic affections of the heart and brain, terminating with sudden fatality, in subjects in whom the existence of ill health was not even suspected! Health can not be predicated to exist simply from the fact that people seem well. In a paper contributed by me to the *New York Medical Journal and Obstetrical Review* for November, 1882, I gave an account of a lady, fifty-nine years of age, whose general health, with the exception of rheumatic symptoms and gouty tendencies, was perfectly good. In this case the urine was always free from albumin, but I invariably found, on examining the urine, epithelia from the convoluted tubules, and hyaline or granular casts. Oxalate of lime and uric acid were usually found. This lady was under constant observation from June, 1881, to June, 1882. About four years after, Bright's disease declared itself, and she died from this a year or two later. A large proportion of chronic lesions may exist for a long time without recognizable disturbances to the health. Sir Andrew Clark stated that he had seen personally within thirteen years six hundred and eighty-one persons affected by valvular lesions of the heart without grave subjective symptoms, and, taking also into consideration the number thus affected who considered themselves in such excellent health as to make medical advice unnecessary, the result was astonishing.*

It is well known, too, that Bright's disease may exist for years, especially what may be designated *primitive chronic interstitial nephritis*, affecting the health not at all, or so little that no examination of the urine is thought of until, perhaps, advanced cirrhosis is attained.

In old men albumin is more frequently intermittent and slight in degree. Lecorché found in the Hôpital Broussais, in the urine of patients above sixty, albumin in fifty-one cases, or 66 per cent. In only one of these cases were there symptoms of Bright's disease, there being in this case œdema, polyuria, and two grammes of albumin to the litre. The reagents used were heat, nitric and picric acids, and Millard's test. In another series of tests made at the hospice of Ivry, in one hundred and fifty-seven cases of patients whose ages ranged from sixty to ninety years, albumin was found in ninety, or 57 per cent., ten of the cases being intermittent. The tests used were heat and nitric and acetic acids. Lecorché believes that had the sensitive tests now known been in use then, a larger proportion of cases of albuminous urine would have been found. Seventy-three of the one hundred and fifty-seven patients died; fifty-six of these had had albuminuria and seventeen had not. In forty-four of these fifty-six, alterations of the kidney were visible to the naked eye; in the remaining twelve the kidneys were congested. In six cases of the seventeen non-albuminuric six presented lesions to the naked eye. The microscope would probably have revealed changes in all the albuminuric cases.

Dr. Goodheart, of Guy's Hospital, recently found albumin in two hundred and seventy-two out of fifteen hundred cases that he examined. In the great majority albumin was found to be dependent on renal disease, but in thirty-nine cases no organic alteration could be found. These thirty-nine cases Goodheart calls cyclic, functional, or physiological albuminuria, though he thinks these two last terms had better be discarded. To explain these thirty-nine cases he states that it is necessary to admit that there is from time to time an exaggeration of arterial tension which produces albuminuria, but that if the tension remain constantly elevated it might bring about definite lesions of the kidney, and the albuminuria then having become constant, being united to a renal lesion, is no longer functional. But, according to his own showing, all his two hundred and seventy-two cases are organic, inasmuch as the observations of the late Dr. Mahomed, Dr. C. W. Purdy, and others have clearly shown that this high arterial tension almost always precedes the appearance of albuminuria, and that in interstitial nephritis it becomes permanent.

In a paper presented to the Academy of Sciences, Paris, in September, 1889, by Dr. Arthaud and Dr. Butte, upon Neuropathic Albuminuria, these authors based the title of their paper upon experimental researches relative to the pathological physiology of the pneumogastric nerve and upon clinical facts. These refer more especially to nephritis of a special type characterized by the pre-existence and coexistence of symptoms of the viscera innervated by the pneumogastric nerve. There is first observed a period in which predominate gastric-pulmonary-cardiac troubles, albumin as yet being absent from the urine. In the second period these premonitory symptoms are persistent and more accentuated, and albumin, ordinarily in small quantities and transient, is found. If the evolution of the malady continue, the albuminuria becomes permanent, and finally the classic Bright's disease dominates the situation. They believe that, in consequence of irritation of the vagus, vasomotor disturbances of the visceral organs innervated by this nerve are produced, and little by little, if the causes remain constant, the nervous lesion becomes chronic and finishes by producing in the kidneys alterations which become definite. This is the same common history—namely, that causes for a long time latent and at first producing no albuminuria at length produce intermittent or persistent albuminuria, and finally recognizable nephritis.

Semmola believes that a considerable degree of albuminuria can be realized simply from dyscrasic conditions of the elements of the blood and independent of any renal lesion; that the continued dyscrasia of the albuminoids of the blood, with the elimination of a non-assimilable albumin which circulates in the blood like a foreign or toxic body, may in time produce a nephritis well marked histologically. Hayem, however, in the discussion that followed the reading of Semmola's paper (before the Academy of Medicine, Paris, July 29, 1890), and in his correspondence afterward with Semmola relative thereto in the *Bulletin médical*, states that, admitting the well-known fact that albumin is eliminated like a foreign body, the nephritis which Semmola produced by the subcutaneous injection of the white of the egg was only a common toxic nephritis. Hayem himself injected normal albuminoids in large proportion—the serum of the peritoneal cavity, the liquid of hydrocele, and even blood serum—without provoking albuminuria. In another experiment he replaced, as far as possible, the blood of a healthy dog by the blood of a dog affected with Bright's disease without producing albuminuria, showing that the blood serum of a dog affected by Bright's disease presents no alterations in its albuminoids capable of producing albuminuria in a healthy animal, and that the albuminuria has no normal or abnormal relations with the products of the blood. Semmola maintains, too, that subjects of Bright's disease eliminate more albumin in the urine when they subsist upon a nitrogenous than upon a lacteal diet. This, according to Hayem, involves several pure hypotheses: 1. That the nitrogenous diet introduces abnormal albuminous principles. 2. That the albuminous principles from a nitrogenous diet arouse albuminuria. 3. He assumes that the albuminoids from milk are different from the albuminoids from other food. Formerly Semmola endeavored to attribute the supposed alteration of the albuminoids of the blood in Bright's disease to a greater diffusibility of them. At present he admits that he does not know the modifications and alterations which the albuminoids of the blood plasma may undergo. He nevertheless continues to maintain the theory of the existence of a chemico-molecular change of an indeterminable nature, but, as he says himself, "non-demonstrable." In Semmola's own words (see letter to the *Bull. méd.*, Aug. 2, 1890), though denying his views to be hypothetical, he says the laboratory is impotent to afford experimental demonstration of the chemico-molecular alteration in the blood of Bright's disease, which does not prevent the recognition of the fact that these alterations are a fact and not a hypothesis. And he says also (*Bull. méd.*, July 30, 1890) that Hayem's experiments can not be invoked against the alteration of the albuminoids of the blood in Bright's disease, because there is a large number, a crowd, of differences in the albuminoids (or hétero-albuminoids, as he calls them) which are entirely unknown to us.

---

* Sir Andrew Clark. Valvular Lesions of the Heart without Grave Subjective Symptoms. (British Medical Association, Fifty-fourth Congress, 1886.)

To sum up, however, Semmola fails to show that the albuminuria produced in his experiments was due to any other cause than glomerulitis and to inflammation of the tube system of the kidneys. The dogs were killed after the experiments and these lesions invariably found, and were undoubtedly due to the egg albumin acting as a toxic irritant. Semmola therefore furnishes no basis for belief that albuminuria may occur without changes in the kidneys. *Albuminuria, independent of renal changes, has yet to be demonstrated to have an existence.*

Claude Bernard, Brown-Séquard, Hammond, Germain Sée, Ferret, Christison, Tégart, Noorden, among others, give instances of albuminuria after highly albuminous food; Christison, especially after cheese in excess; the others, after eggs were eaten freely. Noorden narrates three cases; in one case casts and albumin were produced, in another simple albuminuria, in the third no albumin.

On the contrary, however, it is important to consider that raw eggs do not, as a rule, produce albumin in the urine. Stokvis and two others each took, fasting, eight to ten raw eggs without the appearance of albumin in the urine, and at another time the same author added to his diet eight to ten raw eggs daily for seven consecutive days without a trace of albumin being found, and Griswold never found albumin after eating raw eggs. A student of Lecorché swallowed, fasting, at 6 A. M., six raw eggs. The urine was examined after each urination during a period of forty-eight hours by the most sensitive tests, without finding a trace of albumin. Four tuberculous patients under the observation of Lecorché and Talamon took for eight, ten, and fifteen days the whites of six eggs. In three of these not a trace of albumin was produced; in the fourth, who suffered from hectic fever, a trace was found four times in three weeks. Another patient, free from albuminuria when admitted to the hospital, suffering from alcoholic gastritis and ulceration of the stomach, with hæmatemesis, was fed exclusively for eight days on hot bouillon and eight raw eggs a day. No albumin could be found while under this diet.

In the cases where albumin was voided after taking eggs, it is therefore probable that some disorder of the digestive system prevented the peptonization of the egg albumin, or that the kidneys were diseased. The excretion of albumin after partaking largely of cheese or eggs may be attributed in some instances to individual idiosyncrasy. In the case reported by Christison the patient died of Bright's disease; the patient reported by Dr. Sée had all the symptoms of Bright's disease. Claude Bernard found albumin in his urine after taking (fasting) six raw eggs, disappearing entirely in five or six hours. This author afterward died with all the symptoms of morbus Brightii. After feeding dogs on egg albumin, diarrhœa and jaundice are usually established. Lecorché surmises that the albuminuria is simply a reflex of the intestinal irritation, because, as he states, "it has never been shown that egg albumin is absorbed unchanged into the blood," though peptonization may be so impaired that enough may be taken up in a changed condition into the blood as to produce toxic glomerulo-nephritis. Ferret is the only one who has detected the reaction of egg albumin in the urine, and to show this, the urine must contain a large quantity—at least $\frac{1}{10}$ of 1 per cent., or one gramme to the litre.

Turn therefore which way we may, we can not satisfy ourselves that albuminuria, either natural or artificial, ever occurs except as a result of pathological changes in the kidney, and is consequently never normal or physiological, and never, therefore, to be regarded without distrust.

It is rare in making autopsies that the kidneys do not present changes even macroscopically, the most common being depressions and retractions in the cortex, and in the numerous studies of kidneys that I have made I have found but very few where the microscope did not show some pathological changes, the most frequent being slight cirrhosis; after that, cloudy swelling of some of the epithelia of the tubules and glomerulitis being the most common. In many cases some of the epithelia would be lost and replaced by endothelia. Fig. 6, my book on Bright's disease, shows this, the patient being a woman who had died of gin drinker's liver. I had never found albumin in the urine, but frequently found renal epithelia. These changes are found not only in the human kidney, where renal disease has not been suspected, but I have found them in the kidneys of dogs, pigs, and rabbits. The lesion necessary to produce slight albuminuria may not be great; it may be confined to one kidney or affect only a few clusters of glomeruli and tubules proceeding from them, constituting what Lecorché and Talamon call *néphrite parcellaire*, and which they regard as the true anatomical substratum of latent albuminuria; there may be cloudy swelling only of the epithelia of a few of the *tubuli contorti*, with slight proliferation of the connective tissue or slight glomerulitis.

There is no doubt but that rest and fatigue may greatly influence the appearance, or the contrary, of albumin in the urine; but in advanced stages of cirrhosis of the kidneys I have in very rare cases found at intervals the urine free from albumin, and albuminuria is undoubtedly increased, as a rule, by exercise and diminished by rest. But I do not think that proofs are numerous that severe exercise even will of itself produce albuminuria in a perfectly healthy person, though it would be more likely to in a delicate subject. When this occurs, I believe it to be by the system of the vena cava producing passive engorgement of the kidney with slowness of the blood-current, this being most favorable to the exudation of albumin through animal membrane, if long-continued, modifying the nutrition of the glomerular epithelia and bringing about anoxæmia or a deoxygenated state of the blood. If this continues beyond a certain length of time, structural changes of the glomerular epithelia are soon engendered and albumin exudes into the glomerulus. That albuminuria indicates glomerulitis I believe is clearly enough shown by the experiments of Nussbaum and Overbeck, an abstract of which is given by Charcot in his treatise on Albuminuria. Sometimes the glomerular lesion is rapidly recovered from, but it sometimes becomes permanent, and, although no derangement of the health may be observed, there can be no certainty that the glomeruli and tubuli contorti may not in time become gravely affected.

Next as regards albuminuria from a prognostic point of view. If the albumin is found beyond question to be true serum albumin and not caused by cystitis, elytritis, trachelitis, etc., whether it be cyclic, permanent, transient, or intermittent, whether only traces are found or it exists in a measurable percentage, it never can be safely assumed that harm can never come of it. I speak of chronic conditions. Great vigilance should be exercised in the observation of these cases. The urinary secretion should be measured, the amount of solids estimated, and the nutrition of the system as regards growth or waste, etc., ascertained, the arterial tension and cardiac condition noted, and these data not once simply but oftener if necessary, and in many cases for a continued period. "Renal inadequacy," a very suitable term, first employed, I believe, by the late Sir William Gull—that is, incapacity of the kidneys to form and excrete the proper amount of solids and a deficient formative capacity which usually accompanies marked albuminuria—is an important factor in the prognosis. If the amount of solids fall much below what should be voided according to the diet and weight of the patient, and that persistently, there is ground for believing that serious pathological changes are being or have been developed. The average amount of solids voided by a man in health being placed at fifty-eight grammes, any great diminution for a continued length of time of solids excreted is significant. A very close approximation to the amount of solids (in grammes) voided can be obtained by Trabb's well-known simple rule—that is, reducing the number of ounces voided in twenty-four hours to cubic centimetres by multiplying by thirty, then multiplying this again by the last two figures of the specific gravity multiplied by two. Of course the diet, stature, weight of the subject, amount of exercise, perspirations, etc., must be considered. Forty-eight ounces being taken as the amount of urine voided in twenty-four hours and the specific gravity being 20, we would have about fifty-eight grammes of solids excreted. The aid of the microscope should always be enlisted. In slight albuminuria and in albumina minima the microscope rarely shows any of the elements of renal inflammation. Proliferation of the connective tissue, mild catarrhal nephritis, and glomerulitis may exist for a long time unaccompanied by changes in the tubules. These in time are, however, likely to become involved, and then renal epithelial casts, blood-corpuscles and pus-corpuscles, variously, may be found. It has been a not infrequent experience with me, however, that cases have been pronounced albuminuric when the albumin has been simply an accompaniment of slight catarrh of the bladder or of the prostatic portion of the urethra. I have never seen these cases, no matter how slight, where I could not recognize albumin, sometimes not more than one two hundredth or one two hundred and fiftieth of one per cent., either by Tanret's or by my own test. If the cystitis is sufficiently marked for numerous pus-corpuscles to be found under the microscope, Heller's test will probably show a sharp line at least one ninth of a line in thickness, which indicates about one ninetieth of one per cent. of albumin. The urates, too, may show this same sharp line. But if we have renal albuminuria to deal with, if persistent, no matter how favorable all physical conditions may seem, we can not assert with perfect confidence that serious lesions may not in time become manifest, and every precaution as regards dress, diet, and care in living should be observed. I should not class as intermittent albuminuria those cases produced by hard study, taking cold, etc.

After albuminuria has existed for a long time, I have known it only in a small proportion of cases to disappear permanently, and then after a long and rigid course of treatment. Nevertheless, I have had under my observation patients in whose urine I could always find $\frac{1}{90}$ to $\frac{1}{40}$ or $\frac{1}{30}$ per cent. of albumin for several years consecutively without the occurrence of what could be considered renal symptoms. At the same time I should, however, state that the health of these patients was seldom perfectly good. Common symptoms would be a depressed condition of the strength, loss of appetite, the uric or oxalate-of-calcium diathesis. The cases without renal symptoms of some sort at some period were, however, quite exceptional.

Permanent albuminuria, even if intermittent, according to my experience, usually implies in some way impaired health or some latent pathological condition.

As to when albuminuria may be considered cured: Not until at least a long time has passed, the urine being examined from time to time in the most careful manner without albumin being found. Then, if no organic changes of the kidney are found, arterial tension is absent, the heart is normal, and the health is good, we may hope that the albumin will not return.

Should all cases of chronic albuminuria, simply from the fact of albumin being found, be rejected by life-assurance examiners? I believe they should not. I have known some albuminuric patients who enjoyed practically good health and lived to a good age. Albuminuria is not always a more threatening symptom than *other* symptoms. An albuminuric patient may occasionally be in every respect a good risk. There are cases where repeated and comprehensive examinations must be made before the examiner can decide as to the interests of his company. There can be no unvarying rule as to this point. I have known albuminuric subjects rejected whose health was good, and applicants with other affections more serious than some of these cases accepted.

What Lecorché and Talamon say is pertinent to this subject: "It is impossible to attach any prognostic value, direct and immediate, to the presence of albumin in the urine. Albuminuria indicates an alteration of the glomerular filtering membrane; transient or permanent, abundant or minimal, it indicates nothing else; it affords us no information as to the profundity and extent, and consequently none as to the gravity, of the lesion. To form an opinion of this, other elements of appreciation and other phenomena, general or local, must be considered conjointly with the albuminuria."

Of course, if even albumina minima or intermittent albuminuria are accompanied by arterial tension and the significant signs of cirrhosis—such as headaches, disturbances of vision and debility, and insufficient excretion of solids by the kidneys—the case is perhaps more than doubtful, and the dread *sequelæ* of advanced morbus Brightii—such as atheroma of the arteries, miliary aneurysms, loss of the renal functions—are to be expected.

Finally, all persistent albumina, *maxima* or *minima*, are always to be watched.

A Rare Antipyrine Rash.—"Veiel describes a case of a patient in whom antipyrine always produced a peculiar skin rash. Soon after the dose was taken there was severe itching of the palms of the hands, the lips, the soles of the feet, and of the glans penis. The lips became œdematous, and large bullæ formed on them; two bullæ also formed on the hard palate and between the toes. On the soles and palms there were deep-red urticaria-like spots with sharp contours, which itched severely but did not form bullæ. The itch lasted three or four days; the bullæ on the lips dried in four or five days; those in the toes in about eight days; the spots on the palms, soles, and glans penis desquamated in large scales after about ten days, and had vanished in about three weeks."—*British and Colonial Druggist.*

THE IMMEDIATE REPAIR OF LACERATIONS OF THE CERVIX UTERI,

WITH A REPORT OF SIX CASES.[*]

By CHARLES CLIFFORD BARROWS, M. D.,
ASSISTANT OBSTETRIC PHYSICIAN TO BELLEVUE HOSPITAL.

All those who practice obstetrics are agreed that, notwithstanding the fact that every possible precaution may be taken to prevent the accident, laceration of the cervix uteri will occur in a large proportion of labors.

From my own observation, as well as from what I can gather from the literature of the subject, I believe that this lesion is of even more frequent occurrence than laceration of the perinæum, and I feel sure that it is of far greater pathological importance. When we come to consider the many dangers to the life and future welfare and usefulness of the patient that may have their inception in a neglected lacerated cervix, it is surprising that the operation for the immediate repair of this lesion has apparently met with so little favor among obstetricians.

As a proof that the primary operation is not a popular one with the body of the profession, the frequency of the secondary operation in the hands of the gynæcologists is sufficient. I shall endeavor in this paper to show that the immediate repair of this lesion is an operation based on correct principles, that it is free from danger, that it is easy to perform, that it is universally followed by good results, and that it removes at once a serious risk to the future health and happiness of the parturient woman.

In 1874 the late Professor Pallen, in a paper entitled Accidents of Parturition requiring Surgical Treatment, first called the attention of the profession to the immediate closure of cervical lacerations, reporting some cases in which he had done this with silver sutures for alarming hæmorrhage. He was so well pleased with the result in these cases that he reached the conclusion that whatever form of laceration the cervix might undergo, coaptation evidently tended to the best results, either immediate or subsequent.

In looking over some of the most recent text-books on midwifery, I find that this operation is not mentioned at all by some of them, and by others is only recommended when there is free bleeding from the torn surfaces, and then only as a last resort when the bleeding can not be checked by such unsurgical procedures as the introduction of a tampon or the application of persulphate of iron and other styptics; and yet these same writers describe with elaborate details the operation for the repair of laceration of the perinæum, an accident which, of course, demands surgical treatment, but which is not nearly so fraught with danger to the life and welfare of the patient as the cervical laceration.

As far as the indications for surgical treatment go, these cases may be divided into two classes:

1. Those cases in which there exists only a slight laceration at the os externum, which is hardly to be recognized when the uterus has contracted, and is of no pathological importance.

---

[*] Read before the Society of the Alumni of Bellevue Hospital, April 1, 1891.

2. Those cases in which the tear extends a third or half way up the cervix, or through the vaginal junction into the cellular tissue about the cervix or even into the body of the uterus, the base of the bladder, or the peritoneal cavity.

The first class may be considered almost a natural accompaniment of all first labors and does not call for operative interference. The other class of cases of this injury as mentioned above should be repaired at once. If neglected, these cases may give rise to serious and sometimes alarming or even fatal hæmorrhage. This may come from the vessels which are severed by the tear itself or from the uterus, which has failed to contract because of the injury to its lower segment. I have seen this last-named condition of affairs more than once, and I have remarked with no small degree of satisfaction the prompt and permanent contraction of the uterus which followed the proper placing of the sutures. Of course the bleeding which comes from the torn surfaces is also at once checked by this procedure.

These lacerations, though they may not be of very great extent, interfere materially with the involution of the uterus, thus making the "getting up" slow and unsatisfactory, and giving rise, it has been said, to perhaps one third of all the cases of uterine disease. The inflammation beginning in the lesion of the cervix may extend into the surrounding cellular tissue, resulting in serious or even fatal complications, or by direct extension may reach the lining membrane of the body of the uterus, thence spreading to the tubes and ovaries and the peritonæum surrounding these organs. In this way is initiated for the woman a life of misery and wretchedness, together with such a crippling of the functions of the reproductive organs as to leave the patient in a state of chronic invalidism or to demand operative procedures of the gravest character, carrying with them a serious risk to life.

But the greatest danger arising from neglected lacerations of the cervix uteri is the risk of exposure of the patient to septic infection. The gaping torn surfaces could not be better placed for the absorption of septic material, and, while the lymphatics in the cervix are not so numerous as they are in the vagina or the body of the uterus, they are sufficiently abundant, to my mind certainly, to be responsible for a large number of the cases of puerperal sepsis. This condition alone ought to be enough to induce us to cut off at once this wide avenue for the introduction of sepsis, so dangerous to the woman's life and future health.

In view of these facts, I therefore make it a rule to examine carefully, immediately after parturition, all women who are delivered at my hands, and to repair at once any serious cervical laceration that may be discovered.

As to the operation itself, it is a simple one and so easy of accomplishment that it may be done by any one, however moderate his surgical attainments. Anæsthesia is not absolutely necessary, though it is desirable, being of decided assistance to the operator, as well as comfort to the patient. In a large number of the cases demanding this operation, anæsthesia will have been already necessary, and, as the operation is done immediately after the expulsion of the placenta, but a small additional quantity of the anæsthetic agent will be required.

The patient, lying on her back across the bed, is brought down until her buttocks project slightly over the edge of the bed, and the thighs are well flexed on the abdomen. The external genitals and vagina are then thoroughly cleansed, and the cervix is seized with a volsella and brought down to the vaginal orifice. The operator may be aided in this part of the procedure by the pressure of the hand of the nurse or assistant on the fundus uteri. The cervix can in this way be brought into view with perfect ease. A perineal retractor, such as any one of the modifications of Sims's speculum, will make the view of the cervix more perfect, but it is not at all necessary for the placing of the sutures. The extent of the laceration can then be easily determined by both touch and sight, the appearance of the torn surfaces differing materially from the other portions of the cervix uteri. An intra-uterine douche of 1-to-5,000 solution of bichloride of mercury is then given, followed by one of plain boiled water, both douches being at a temperature of about 110° F. The coaptation of the torn surfaces is then accomplished by a continuous over-and-over suture of chromatized catgut, care being taken to draw and tie the sutures tightly. The vagina is then douched with plain hot water, and an antiseptic pad is placed over the vulva.

It may thus be seen that the operation is, as I have said, a simple one, and I will say that I have accomplished it with no greater armamentarium than that furnished by my pocket-case—viz., a needle, a needle-holder, and a silk suture. In this case a long suture was passed temporarily through the center of each lip of the cervix and the uterus drawn down by traction on these, instead of by the use of the volsella. These traction sutures were, of course, removed when the operation was completed.

Let me say a word about the material of which the sutures are composed. Various substances have been recommended—silver wire, silk, silk-worm gut, and catgut. Catgut is by far the best material, and I have found No. 5 (violin A), chromatized, to answer all the conditions best. The great advantage that catgut has over the other materials named is that it does not have to be removed. This is a decided advantage, since, in parturient cases in which a laceration of the cervix results, one is also very commonly called upon to repair at the same time a laceration of the perinæum. In such a case, of course, sutures of non-absorbable material would have to be left in the cervix longer than there is any necessity for, in order to prevent injury in their removal to the recently repaired perinæum. But catgut presents another advantage, and that is its elasticity and freedom from tendency to cut into the tissues. Since there is a rapid contraction of the tissues in which the sutures are placed, special care should be taken to tie them tightly, in order to keep the two surfaces in proper apposition when the tissues shrink. When any strain of this kind is brought on silver wire, and more particularly on silk-worm gut, seated in soft tissues, they will be found to cut in and thus jeopardize the success of the operation. Silk has more elasticity than either silver wire or silk-worm gut, and does not cut so badly as either of these; but, besides the objection that the sutures have to be taken out, it becomes more easily contaminated by the septic material which may lie in the vagina.

No after-treatment is required in these cases other than the daily use of warm carbolized douches.

The results of this operation have been in my hands all that could be desired. Whenever it has been done union has been secured, involution has progressed rapidly, and the cervix has soon presented no evidences of the lesion which had existed. No unpleasant reaction of any kind has occurred, and, if the operation is properly done, I see no reason why it should not always be followed by equally satisfactory results.

In illustration of the foregoing remarks I desire to present the following cases. Some of the cases have so many points of interest to the obstetrician that I have given a somewhat fuller report of them than is absolutely necessary for the illustration of the subject under consideration:

Case I.—L. R., Irish, aged thirty-two, married, primipara, was delivered by me at the Emergency Hospital on November 28, 1889, of a living child by the application of the forceps to the head at the pelvic brim. There was perceptible narrowing of the pelvis in all its diameters and the patient had been in labor some forty-eight hours when she was admitted. The membranes had ruptured before she was brought to the hospital, and her condition was such as to demand operative interference at once. The delivery was accomplished without difficulty, but was followed by severe hæmorrhage from a laceration of the cervix extending through the vaginal junction, as well as from the cavity of the uterus, which was contracting badly. Ergot was given hypodermically and the uterus was stimulated to contract by external manipulation and by copious hot intra-uterine injections. So long as these applications were continued the uterus remained fairly well contracted, but the moment they were discontinued the bleeding from the uterine cavity recurred. The hæmorrhage from the cervix had been checked for the time by forcipressure. The cervix was then drawn down and the extensive bilateral laceration was closed with seven interrupted silk sutures, no catgut being at hand. The uterus at once contracted firmly and the bleeding ceased. The sutures were removed from the cervix on December 16th and the union found to be perfect and the involution of the uterus satisfactory.

Case II.—L. H., aged twenty-eight, United States, married, primipara, was brought to the Emergency Hospital on February 26, 1890, for the induction of premature labor for albuminuria. The patient gave a history of syphilitic infection two years prior to her present pregnancy and said she had suffered for the same length of time from the symptoms of cardiac disease. For a month prior to her admission to the hospital her urine had been growing more and more scanty until the quantity had been diminished to about two ounces in the twenty-four hours. She had suffered greatly from nausea and dyspnœa and had for weeks been unable to sleep in a recumbent posture. The condition of the patient on admission was deplorable. Her nose was sunken and her face marked by the ravages of the specific infection. Her lower extremities were œdematous and she presented all the symptoms of advanced cardiac dilatation. Her pulse was so rapid, feeble, irregular, and intermittent that it could not be counted. Physical examination revealed a dilated heart, with both aortic and mitral lesions, beating at the rate of 140 a minute and staggering badly. The small amount of urine that could be collected became solid on the application of heat. The vagina presented the evidences of specific disease both old and recent, the recent lesion being a serpiginous ulceration involving the right side of the vaginal wall and producing a free purulent discharge. The patient prior to her admission to the hospital had been in the hands of a skillful physician and was receiving the correct medical treatment. Labor was induced in the usual manner by the introduction of a bougie between the membranes and the uterine wall, this being followed by the use of Barnes's bags until the cervix was well dilated. An effort was made to keep the vagina cleansed as thoroughly as was possible. As soon as the head had engaged, the forceps was carefully applied and the child extracted without accident except a slight laceration of the perinæum with a tear in the vagina at the seat of the ulceration and a laceration of the cervix not quite up to the vaginal junction. These lacerations were closed with catgut sutures. The patient made a satisfactory convalescence and was discharged much improved. The lacerations of cervix, vagina, and perinæum healed by primary union. Because of the condition of the patient's heart no anæsthetic was used in this case. My object in applying the forceps was to prevent as nearly as possible all muscular action on the part of the patient and thus diminish the strain on the heart and the danger of syncope.

Case III.—A. P., aged thirty, United States, married. When seven months advanced in her third pregnancy, on September 10, 1890, while lying quietly in bed, she was seized with a sudden violent painless hæmorrhage. I saw her within a short time, and found the hæmorrhage dependent on placenta prævia. I at once, by means of Barnes's bags, carefully dilated the os uteri and then detached the placenta on the left side, ruptured the membranes, and brought down a foot.

The placenta was situated on the right side and its margin projected about half way over the os, so that little blood was lost by this operation. Labor then progressed satisfactorily, as rapid delivery being effected as was consistent with safety. The placenta was expelled immediately after the child, which was born alive. The head of the child, in passing through the cervical canal, produced a bilateral laceration well up to the vaginal junction on the right side, the tear on the opposite side being of small extent. The uterus did not contract well, and there was free hæmorrhage from its cavity as well as from the laceration on the right side of the cervix. As no catgut was at hand, the rent on the right side of the cervix was immediately closed with silk. The uterus at once contracted firmly and all bleeding ceased. The patient made a good recovery, the extensive laceration on the right side having healed perfectly. No attempt was made to close the slight laceration on the left side, because it was not considered wise to subject the patient to further operative procedure. This still remains, but up to this time has fortunately given rise to no trouble.

Case IV.—N. M., aged twenty-six, married, primipara, was delivered by me at the Emergency Hospital on September 10, 1890. Her pelvis was a contracted one, the narrowing being most marked at the outlet. In the delivery, accomplished by the operation of bipolar version, the cervix sustained a bilateral laceration up to the vaginal junction. The tears were closed with continuous catgut sutures, a perfect result being secured.

Case V.—B. S., aged fourteen, United States, single, primipara, was admitted to the Emergency Hospital on December 10, 1890. The patient's pelvis was of the rhachitic type, and there was also present an ankylosis of the right hip joint, the result of former coxalgia.

In view of the possibility of a Cæsarean section, the patient was transferred to Ward 23, Bellevue Hospital. The child presented by the breech and was extracted without difficulty, weighing only about four pounds. There was a laceration of the cervix not quite up to the vaginal junction, and also a slight laceration of the perinæum through a chancre with a hard base of about the size of a five-cent nickel, which was found at the site of the fourchette. The tear in the cervix was closed with catgut, the chancre was cut out of the torn edges of the perinæum, and the parts were properly coaptated with silk-worm gut. An excellent result was secured, primary union resulting in both lacerations.

Case VI.—S. M., aged seventeen, United States, single, was admitted to the Emergency Hospital on January 26, 1891. The patient stated that on January 23d she had several strong pains accompanied by a discharge of a considerable amount of fluid, and that fluid had been dribbling from her from that time until her admission. On examination, it was found that the pelvis was slightly contracted, and that the membranes covered the child's head, which was presenting, but apparently contained no fluid. A living child was extracted with the forceps. The perinæum was not torn, but there was an extensive bilateral laceration of the cervix. This was closed with a continuous catgut suture, a perfect result being secured.

A study of this group of cases will show that each case represents a class in which laceration of the cervix uteri is universally regarded as at times unavoidable, and I will say that every possible precaution was taken at the time of delivery to prevent the accident. The cases include both hospital and private patients.

Primary union was secured in every instance notwithstanding the fact that some of the cases presented conditions which are usually supposed to materially interfere with this result. In addition to the six cases here reported, I have done this operation in three other instances with equally satisfactory results.

The conclusions reached are that, under certain conditions, lacerations of the cervix uteri are unavoidable, that where they occur to any extent they should be repaired at once, and that this can be done easily without risk to the patient and with every prospect for a successful result. The objects aimed at by this procedure are—

1. To prevent hæmorrhage from the torn surfaces, but more particularly from the cavity of the uterus, by insuring complete and permanent contraction of the organ.
2. To prevent puerperal pelvic cellulitis, endometritis, metritis, salpingitis, oophoritis, and peritonitis, and their complications and sequelæ.
3. To restore the cervix to its normal condition and prevent the development of the conditions dependent on the formation of cicatricial tissue at the site of the laceration.
4. To promote involution and prevent the evils dependent on subinvolution.
5. To remove at once a common source of septic infection.

The Cremasteric Reflex in Chloroform Anæsthesia.—An excellent test for surgical anæsthesia by chloroform exists in the cremasteric reflex. When it is lost, sensation has disappeared.—*Medical News.*

Medical Practitioners in Paris.—The number of medical practitioners in Paris is stated to be 2,200. As the population of the French capital is 2,300,000, this gives a proportion of about 1 medical man to every 1,000 inhabitants.—*British Medical Journal.*

POLYPS OF THE MALE URETHRA.

By HERMAN GOLDENBERG, M.D.,
PHYSICIAN TO THE MOUNT SINAI DISPENSARY;
ASSISTANT PHYSICIAN FOR SKIN AND VENEREAL DISEASES TO THE OUT-PATIENT DEPARTMENT OF THE NEW YORK HOSPITAL.

Polyps of the male urethra are so rarely diagnosticated during life that it is worth while reporting the following cases, which may be found, for various reasons, interesting and instructive:

Case I.—J. L., fifty-nine years old, had never had gonorrhœa or other venereal disease. He enjoyed perfect health up to the beginning of June, 1890, when he was suddenly, without apparent cause, unable to pass his urine. Notwithstanding the strongest efforts, not one drop could be voided, while up to that date the stream had been normal and the micturition had not been accompanied by pain. Internal medication, Sitz baths, and rest were inefficacious. It therefore was necessary to catheterize the patient. This was done without trouble. As he was not able to pass his urine for the following two days, he was sent by his physician to a hospital. There urethrotomy, internal and external, was at once performed. The patient made a normal recovery and was discharged at the end of six weeks. He then came to the writer for the passage of sounds.

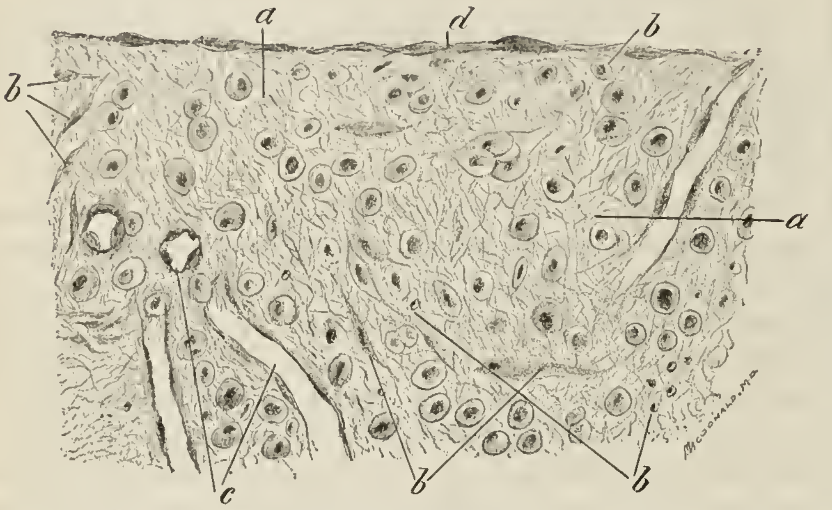
He complained of difficult and frequent micturition, the stream when it came being unsatisfactory. There was also a rather profuse purulent discharge consisting of epithelium and pus cells. Microscopical examination did not, however, reveal any gonococci. The urethra was very tender, especially near the bulb and in its posterior part. A sound No. 14 English passed with some difficulty, always causing a hæmorrhage from the urethra lasting for one to two days. As these symptoms were without apparent adequate cause, I subjected the patient to an endoscopical examination in the presence of two colleagues. One of them expressed rather pessimistic views as to the value of this method for diagnosis. It strangely enough happened that I remarked that if in one thousand examinations one polyp should be discovered, the labor would be well repaid.

On withdrawing the endoscope, near the bulb, a prominent body like a growth was visible, nearly filling the entire field of vision. The bright-red color of this tumor contrasted with the paler hue of the surrounding mucous membrane, to the upper and left wall of which the tumor was attached by a broad pedicle. The growth was of the size and shape of a split bean, the free convex surface moist and shining. The foregoing characteristics led me to make the diagnosis of a mucous polyp.

Various instruments for the removal of these tumors of the urethra have been recommended. The removal in the present instance was as follows: Having brought the growth prominently in view, the endoscope was closely pressed against that side of the urethra from which the polyp sprang. The penis was then well stretched, and by a sharp pushing movement the tumor was easily and cleanly sliced from its base. The removal was complete and painless, the bleeding minimal, and the wound smooth and clean-cut.

This case is of special interest because the patient had submitted to radical operations with only partial amelioration of his symptoms. Without the endoscope he might have remained a sufferer for a long time, or perhaps even been given up as having incurable gleet.

The tumor, hardened in alcohol, imbedded in celloidin, and stained with hæmatoxylin, was found to consist of a basement substance of clear transparent tissue, in spots slightly granular; in other places, fibrillary tissue—transformation of fibrillary into mucous tissue. In this mass were numerous round cells and many small blood-vessels imbedded, the whole being surrounded by a capsule composed of flattened epithelium.



a, intercellular tissue ; *b*, cells (spindle-shaped, round, and mucous) ; *c*, blood-vessels ; *d*, capsule.

In addition to the foregoing case, I wish to relate another instance of urethral growths of a different nature.

Case II.—A. K., twenty-four years old, consulted me for a urethral discharge which seemed to be of a gonorrhoic nature. I must state that neither microscopical nor endoscopic examinations were made, but simply that an injection was prescribed which did not relieve the symptoms. Then my attention was drawn to a few small venereal warts on the prepuce, and a still smaller one on the meatus. Thus being made suspicious that similar appearances might be inside the urethra, I examined the patient endoscopically and found in the neighborhood of the fossa navicularis three warty growths each of about the size of a pea. They were of a dark-red color, bleeding upon the slightest touch with the probe, and were exceedingly tender. They resembled so much the external vegetations that there could be no doubt as to their identity.

They were easily removed by a small, sharp spoon, and, on account of their bleeding, touched with a 20-per-cent. nitrate-of-silver solution.

Microscopically, they were found to consist of extensively hypertrophied and hyperplastic epithelium, into which the attenuated and hypertrophied papillæ were drawn—the usual picture presented by papillomata.

It is indeed remarkable that so little has been written about the so-called polyps of the male urethra.

In text-books on general or genito-urinary surgery their occurrence is either entirely ignored or only cursorily mentioned. There are only three cases on record in American literature of the last five years, viz. :

Harte, R. H., A Contribution to the Tumors of the Urethra, with a Report of Two Cases.*

Eversole, A Case of Vegetation in the Urethra removed by Aid of Endoscope.†

Neither of these authors gives a description of the histology of the specimens.

Briggs, A Case of Papillomatous Urethritis.‡

Grünfeld is the one to whom we owe most of our knowledge about urethral polyps. He had observed eighteen cases in the male urethra up to 1881. Since then there have been only about eight cases reported by German authors which, where a microscopical examination had been made, were found to be papillomata, with the exception of one case reported by Neuberger,* which corresponded histologically with my first case.

Lately, Oberländer has published a very elaborate article on Urethritis Papillomatosa,† in which he maintains that polyps of the male urethra are not of rare occurrence, without giving the number of cases which he has observed. According to him, all such urethral growths are papillomatous, not fibromatous, and in consequence he wants to substitute the name "papillomata" for "polyps."

Von Antal has the opposite views, believing the majority of urethral polyps to be fibromatous.

Neither one has given a histological description of these growths.

In regard to the indefinite term "polyps" I would say that it is derived from the Greek (πολυπούς, many-footed), and it is not founded upon a histological basis. The name is simply used to designate a benign, more or less movable, outgrowth from the surface of a mucous membrane and not extending into the deeper tissues. The term is therefore a general term, and includes papillomata, fibromata, etc. Histologically, we find the polyps of the urethra, like those of other mucous membranes, composed of various tissues, and then they are called mucous, fibrous, angeiomatous, adenomatous, or any combination of these. Commonly they are found to be fibrous, and are either papillary (*not papillomatous*), developing from the papillæ of the mucous membrane, or submucous, growing from the submucous tissue. Both consist of a stroma of fibrillary tissue in which connective-tissue cells and blood-vessels are imbedded. The whole is usually covered by a more or less thick layer of flattened or cylindrical epithelium, which, however, is not necessarily present. If the desquamation of the epithelium, for some reason or another, took place during the formation of the polyp, the latter may be connected with the adjacent part of the urethra by a capsule of connective tissue.

Papillomata of the urethra do not differ histologically in any way from those on the skin, or the so-called condylomata acuminata. Therefore they do not require any further description.

After a careful perusal of the scant literature on this subject, I conclude that papillomata are much oftener seen than the submucous fibromata. In fact, the case reported by Neuberger and my first case are the only fibromata of the urethra on record.

The papillomata are more vascular than the fibromata, and therefore bleed more easily, and, as they probably contain the nerve terminations, they are more tender.

As to the ætiology of the polyps, formerly the opinion was prevalent that all these tumors of the urethra were caused by a gonorrhoic infection. This is extremely natural when we consider that gonorrhœa is so widespread that it is extremely rare to find a patient suffering from urethral disturbances who has not at some time or other had gonorrhœa. We are only too prone to argue, "*post hoc, ergo propter hoc.*" Gonorrhœa is without doubt one of the principal ætiological factors, but by no means the only one. There are cases on record, and my first case is one of them, where urethral growths developed without a preceding gonorrhœa. Why may a polyp not develop independently of an infection as well in the urethra as in the nose or larynx? Furthermore, urethral polyps are much more common in the female urethra, where gonorrhœa is not so frequently found as in the male.

---

* *Univers. Med. Mag.*, Philadelphia, 1888–'89.

† *St. Louis Polyclinic*, 1889.

‡ *Boston Med. and Surg. Jour.*, 1889.

* *Wiener med. Presse*, 1889, No. 23.

† *Monatshefte für prakt. Dermatologie*, 1889, Band x.

The symptoms of urethral polyps are identical with those of gleet and stricture and depend for the most part upon the location and size of the neoplasm. A polyp in the posterior urethra may give rise to the same subjective symptoms as urethro-cystitis—viz., frequent and painful micturition and pollutions. Oberländer professes to have restored the *potentia coeundi*, which had been lost for several years, by the removal of posterior urethral polyps.

The subjective symptoms are usually not so pronounced when we find the trouble situated in the anterior part of the urethra. But I can easily understand that a polyp located in the bulb of the urethra, as in my first case, might produce the same symptoms as a severe stricture. The polyp acts as a foreign body on the mucous membrane, and may cause such a reflex contraction of the *musculus compressor partis membranaceæ* ("cut-off muscle") that the efforts of the patient to void his urine are absolutely fruitless. We then have the same picture as in a so-called spasmodic stricture. There seems to be a difference in the symptomatology of fibromatous and papillomatous polyps, inasmuch as the latter are more painful and bleed easier, for anatomical reasons already mentioned. Harte expressed a view, which I can confirm from my own cases and some others on record, that fibrous polyps occur in later life and are single, not specially sensitive, and show little tendency to bleed, whereas papillomata are more frequently found in early periods of life, are multiple, tender to the touch, and prone to hæmorrhage. A diversity of opinion exists, as I stated before, about the frequency of these urethral tumors. They are surely not so rare as most authors are inclined to think, and will be found oftener the more frequently the endoscopic method is used.

I can not share the view expressed by Oberländer that it is absolutely necessary to use an electro-endoscope for the diagnosis of polyps.

Ocular examination of the urethra, in order to become as popular as it deserves, must be simple and quick, especially in dispensary practice. We must use a method which does not require an expensive and complicated apparatus with its attending difficulties. All we need is a tube, a reflector, and good light. Thus the examination does not take longer than a thorough testing of the urine for albumin and sugar, and does not require more time or skill than the examination of the larynx. It is to be hoped that the time is not far off when the endoscope will be considered as necessary an instrument in the diagnosis of urethral diseases as the laryngoscope is in the diagnosis of those of the larynx.

107 East Fifty-ninth Street.

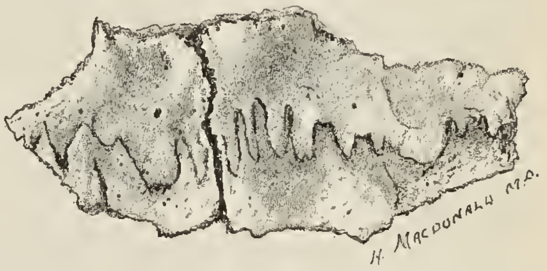
COMPOUND COMMINUTED FRACTURE OF THE SKULL,

WITH LOSS OF BRAIN SUBSTANCE.

By E. P. ROHRBAUGH, M. D.,
ELLIS, KANSAS,
ASSISTANT SURGEON, UNION PACIFIC RAILROAD COMPANY.

On April 8, 1890, I was hastily summoned to see a boy, aged fourteen years, who had been kicked by a pony while out herding cattle. The boy had left his neighbor's place with the cattle about five minutes, and in sight of the house, when he was missed from his pony. They immediately repaired to the place where the pony was, and found the boy lying on the ground unconscious. He was immediately removed to his neighbor's house, and a messenger sent for me. On my arrival I found the lad in a semi-unconscious state; his left lower extremity paralyzed. On examination, I discovered a scalp wound, about an inch to the right of median line, over the parietal bone. The wound was a clean cut through the scalp, of an oval shape, and could be easily raised in the form of a flap. Introducing my finger, I discovered a fracture of the skull, parallel to and about five lines to the right of the coronal suture and two inches long. The piece of bone fractured was depressed below the sound bone, and could be easily pushed down with the probe. On raising the flap of skin, there exuded about half an ounce of brain substance, showing conclusive evidence of the rupture of the dura mater.

Not having the necessary instruments with me, and being fourteen miles from home, I temporarily dressed the wound antiseptically with iodoform gauze, and prescribed fifteen grains of potassium bromide every three hours, and a mild cathartic.



On April 9th, myself and Dr. A. B. Jones, of Wa Keeney, Kansas, returned to the place. On arriving there, we found our patient quite restless with severe pain in his head. His bowels not having moved during the night, he was ordered an enema, his temperature being 99 3° F., pulse 95.

On further examination, we concluded to operate at once, using ether for the anæsthetic. Not being able to raise the depressed bone, we used the trephine. On using the elevator, we discovered the depressed bone lying loose on the brain and denuded of its periosteum. We removed the whole piece, two inches long and an inch wide, implicating the coronal suture, according to the illustration here given. On removing the largest piece, we discovered five smaller spicula, having been broken off and lying loose on the brain. Having thoroughly cleansed the wound, we discovered the laceration in the dura mater, also a lacerated condition of the brain substance, involving the superior parietal lobule of the right hemisphere, four lines to the right of the longitudinal fissure. In cleansing the wound, about half an ounce of brain substance came away, making in all about an ounce of brain substance that was lost. All hæmorrhage having ceased, we dressed the wound with the bichloride as an antiseptic, after which we brought the edges together with antiseptic silk sutures, leaving an opening at the lower edge for free drainage, which could be easily obtained without the use of drainage-tube. The bromides were continued, with exclusive milk diet.

April 10th, 10 A. M.—The patient rested well during the night. Temperature, 99·8° F.; pulse, 90.

11th, 10 A. M.—Temperature, 99°; pulse, 88. Rested well during the night; the wound looks well, with a slight discharge of bloody serum; dressed with iodoform gauze and bichloride, and ordered an ice-cap; paralysis in the lower extremity the same.

12th, 10 A. M.—Temperature, 100·3° F.; pulse, 96. The bowels moved freely in the morning; passed a large quantity of urine at 10.30 A. M.; total paralysis of the left arm; the wound has united, except where it was left open for drainage; there is a slight discharge of bloody serum; opened the wound at the other end, and passed a stream of carbolated water through it.

13th, 11.30 A. M.—Temperature, 99·8° F.; pulse, 90. The bowels have moved six times in the last twenty-four hours; slight movements in the left arm perceptible; slight discharge of brain substance and pus; passed carbolated water through the wound.

14th, 11 A. M.—Temperature, 100° F.; pulse, 98. Return of motion in the left arm more perceptible; has power to grasp objects with it; is able to extend both legs if they are flexed; on flexing the foot, there is a spasmodic tremor in the tendo Achillis.

15th, 11 A. M.—Temperature, 99·6° F.; pulse, 99. Movements in the left arm are greatly improved; bromides and ice-cap continued as before; appetite is good.

18th, 1 P. M.—Temperature, 99° F.; pulse, 90. Motion in the left arm the same; can move the toes on the right foot slightly; has motion in all the extensors of the legs.

20th.—Temperature, 100·3° F.; pulse, 92. No perceptible change in the paralysis of the arm and legs; wound healing without any discharge; no pain in the head; appetite good.

22d.—Temperature normal; pulse, 88. Ordered bromide and iodide of potassium.

26th.—Temperature normal; pulse, 90. There is slight improvement in the movements of the left arm; he can raise the arm slightly.

29th.—Temperature normal; pulse, 88. He can raise the arm over the head, with full control of it; slight improvement in the paralysis of the legs; can move his feet slightly, and resist strong efforts to flex the legs at the knees.

May 2d.—Temperature and pulse normal. Has full control of the left arm; can flex the legs at times; wound nearly healed; discontinued ice-cap; kept on bromide and iodide of potassium.

9th.—Paralysis getting slightly better.

June 27th.—Patient can flex both legs, and, if supported, can step on the right leg with his whole weight; there is entire loss of the power of eversion and inversion in both legs, which there always had been.

July 6th.—Commenced to apply the faradaic current without producing the least contraction whatever, except in the flexor muscle of the big toe; sensation is normal. After using the electricity for about ten minutes, the patient could, by strong efforts, invert and evert both legs slightly.

October 30th.—The paralysis is improving slowly; uses electricity every third day.

January 1st.—Under the use of the galvanic current there has been perceptible improvement of the paralysis of both legs.

THE
NEW YORK MEDICAL JOURNAL,
A Weekly Review of Medicine.
Published by D. APPLETON & CO.
Edited by FRANK P. FOSTER, M. D.

NEW YORK, SATURDAY, MAY 9, 1891.

THE EFFECTS OF TYPHOID FEVER UPON THE BONES AND CARTILAGES.

As a sequel of typhoid fever, disease of the bones has long been observed. Recently this very important subject has received an unusual share of attention. The latest French journals report an observation made by M. Cornil and M. Péan, at the *Académie de médecine*, on the case of a young girl, nineteen years of age, who in the course of convalescence from typhoid fever became the subject of lesions of the bone and periosteum at the upper part of the two tibiæ. In the center of each of these foci of disease there was a small cavity the contents of which, when submitted to bacteriological examination and planted in a suitable soil, showed some remarkable results. The fragments of bone and of embryonic tissue were used to form six cultures in gelatin. In but one of these cultures was a colony of typhoid bacilli developed, all the others remaining sterile. The fragments were then placed in tubes containing bouillon with a five-per cent. aqueous solution of carbolic acid. After four transplantations there remained but a microbe which, by its form, its mobility, its culture on gelatin and on potato, and its reaction in the presence of staining fluids, presented all the characters of the typhoid bacillus. M. Fournier pointed out that there was a difficulty in distinguishing between these bony lesions after typhoid fever and syphilitic exostoses. The inefficacy of antisyphilitic treatment in cases due to the fever was the only reliable point of distinction.

Helferich, at the recent Bremen Congress (*Berliner klinische Wochenschrift*, No. 42), drew attention to the frequency with which the ribs and their cartilages were the subject of attack. He had observed in Greifswald, in the course of the last five years, eight cases of affection of the ribs which had developed during the course or in consequence of typhoid fever. The cartilaginous portions of the ribs were more especially attacked. In one half of the cases one rib only was affected; in the other, several ribs. The affection took the form of a painful swelling of firm consistence, slowly increasing in size. The skin became adherent and reddened, and eventually burst, giving vent to pus and leaving an indolent sinus leading to a small cavity. The cartilage frequently showed cretaceous change and even the formation of a sequestrum. In contradistinction to the tuberculous rib affection, the typhoid fistula, even if of long standing, never led to depression of the patient's general condition. Occasionally it healed without interference, but, when it was very chronic, operative treatment was indicated. The affection is entirely due to the typhoid bacillus. It is met with more commonly in later life, and it is very probable that the alterations taking place then in the cartilage—fibrillation of the intercellular substance and vascularization—may be regarded as predisposing causes.

CERTAIN NEUROSES OF DEVELOPMENT.

In a series of articles appearing in the *Edinburgh Medical Journal*, Dr. T. S. Clouston expresses the belief that rickets, night terrors, the febrile delirium of children at low temperature, infantile eclampsia, and the hysterical affections of childhood are all neuroses incidental to childhood from birth to the age of seven years. They are all more or less connected and may appear in succession in the same patient. They are to be attributed to weakness of inhibitory function and instability in the cortex at a time when the brain is growing rapidly and the convolutions are expanding even more rapidly than other portions. Rickets is clearly a trophic neurosis, probably due to lack of sufficient sunshine to give stimulus to certain central trophic nervous centers. It is the earliest of the more serious neuroses. That the cortex is involved is evident from the common neurotic symptoms, the retardation of growth, and the tendency to precocious and unhealthy mental development which stops short of full mental growth. The author agrees with Jenner and Henoch in attributing the so-called convulsions of teething far more to rickets than to dentition. A tendency to convulsions is the first sign of motor instability of the brain. This same instability is also marked in certain cases by delirium at night with a very low febrile temperature. Such children are seized with convulsions or become delirious at night upon slight attacks of indigestion, or from causes which in stronger children would produce no perceptible effect.

There are also children who are subject to night terrors and to the so-called hysterical affections of children. Their attacks are probably psychical, and are described by Henoch as consisting of loss of consciousness, hallucinations, delirium, stupor, and even catalepsy. In these cases of night terrors investigation shows a surprisingly large number of neuroses in the parents or in near relatives.

MINOR PARAGRAPHS.

A FOREIGN BODY IN THE BRONCHUS.

A very rare, if not unique, form of accidental lodgment of a foreign body in the left bronchus has lately proved fatal in Brooklyn. The victim of the mishap was a young clergyman, over six feet in stature and weighing nearly two hundred and fifty pounds. He was a man of active habits and having an exceptionally large thoracic development. The accident came about in consequence of his holding between his teeth the cork of a medicine-bottle while administering a dose to one of his children. The cork was drawn into the respiratory passages during the inspiratory act after a hearty laugh. It was drawn beyond the bifurcation and was lodged in the left bronchus. Five days after the accident the patient was removed to the City Hospital, where tracheotomy was performed and attempts were made to grasp the cork; but these efforts were rendered ineffectual by the imbedded state of the foreign body. Subsequently another operation for the removal of the cork was done, the surgeon, Dr. J. D. Rushmore, making use of a specially devised corkscrew-like instrument. The instrument was brought into contact with the cork, but it failed to take hold upon it with firmness, although it is reported that it was the opinion of some of those present that a portion of the cork was broken off by the instrument and expelled by coughing. The operations were performed under anæsthetics in both instances, and were not discontinued until the patient's condition indicated that his strength was unequal to a longer endurance of the strain. An operation for thoracotomy on the left side, in front, was begun, and had been advanced to the point of exposing the ribs when the cardiac flagging made it necessary to suspend the procedure. The weakness of the heart, together with a rise in temperature from time to time above 102° F., indicated the beginning of septic infection. The right lung for two weeks did all the work of blood aeration, and it was adequate for the most part; dyspnœa was occasionally present, but at no time was it urgent.

TRANSPLANTATION OF MUCOUS MEMBRANE FROM THE MOUTH TO THE EYELIDS.

This operation, which is performed for the relief of entropion and trichiasis, is described by Arthur Benson in the *British Medical Journal* for February 7th, and is called by him the "St. Mark's Hospital operation." The first step is to split the affected lid along the whole length of its free border in such a manner that all the cilia, both normal and abnormal, are in the anterior or skin flap, and all the conjunctiva is in the posterior flap. The incision should run obliquely through the tarsus and extend into the subcutaneous tissue of the lid, as otherwise the wound will not gape freely and the transplanted flap will be squeezed out of place by the rigid lips of the incision. The making of this incision is the most difficult and important part of the operation. A piece of mucous membrane of the requisite length and width is dissected from the mucous membrane of the lip, freed from submucous and areolar tissue, and fixed in the lips of the wound in the lid by sutures. The operation is rendered practically bloodless by compression of the lid. For this purpose Knapp's modification of Snellen's clamp is mentioned as preferable. After the removal of the clamp the hæmorrhage is free for a time, but soon ceases, and a dressing of iodoform ointment is applied. When it is first transplanted, the flap is almost white and bloodless; after twenty-four hours it turns almost black-red, like an old blood clot, and in another day it becomes of a bright-pink color, which it ever after retains. This operation has been in use for some years in St. Mark's Ophthalmic Hospital, Dublin, where an unusually large field for testing the value of such a procedure is found, on account of the great prevalence of granular ophthalmia and the resulting entropion and trichiasis; and the testimony that no other operation has ever given its surgeons the same perfection and permanence of result is worthy of consideration.

REMOVAL OF THE GASSERIAN GANGLION FOR SEVERE NEURALGIA.

Mr. William Rose reports in the *Lancet* a case in which he performed the operation of removal of the Gasserian ganglion. The patient had previously submitted to several operations on the branches of the fifth nerve for the relief of intense neuralgia, but the relief obtained was only partial and temporary. Finally the pain in the upper jaw and cheek became so intensified that the slightest touch upon the gum, the sudden approach of a person, or the banging of a door sufficed to induce a paroxysm of agony. Opiates had practically no effect, so that an attempt to remove the Gasserian ganglion was decided upon. The superior maxilla was removed and a ring of bone about the foramen ovale was carefully taken away with a half-inch trephine. The ganglion could then be seen lying upon the apex of the petrous portion of the temporal bone. It was loosened by passing an aneurysm needle beneath it, and removed in three or four pieces with the aid of a narrow probe-pointed bistoury and a fine hooked forceps. The dura was not injured and the bleeding was slight. The patient suffered somewhat from shock, but recovered, and now considers herself in better health than she has enjoyed for years. The pain ceased after the operation, and did not return. More than six months after the operation sensation and taste were practically absent from the right half of the anterior portion of the tongue, but distinctly present posteriorly. There was circumscribed anæsthesia, with wasting of the muscles of the right cheek. There was no paralysis of the facial nerve. An unfortunate accident after the operation was the loss of the right eye from ophthalmitis.

INFLUENZA BACTERIA.

A recent number of the *Progrès médical* contains an abstract of an article by Professor Babes, which appeared in the *Centralblatt für Bakteriologie und Parasitenkunde*, on the subject of bacteria in influenza. The author has succeeded in isolating two varieties of micro-organisms to which he thinks that in all probability the pathological element in the causation of influenza may be attributed. Those of the first variety form short chains, are immobile, and are not stained by Gram's method. Their colonies are small in dimensions, transparent, and developed through the entire culture media. They have been proved capable of producing active pulmonary inflammations. The bacteria of the second class produce on agar-agar colonies that present a dark center and a whitish periphery. They are also immobile, but, unlike the first variety, are colored by Gram's method. In mice, the inoculation of this culture produced fatal pneumonia, the bacilli being found in the blood-vessels; and in rabbits a local inflammation resulted.

THE LEIDY BROTHERS.

The death of the two brothers, Dr. Joseph Leidy and Dr. Philip Leidy, of Philadelphia, on April 29th and 30th, within a few hours of one another, increases the long list of losses among prominent men that have befallen the profession this season. Joseph, the elder, was in his sixty-eighth year; Philip was fourteen years his junior. In 1853 the senior Leidy was chosen professor of anatomy at the University of Pennsylvania, and he held the chair at the time of his decease. He was one of the most prolific of the scientific investigators of his generation, and the titles of his published papers, chiefly on anatomical, biological, and paleontological subjects, are said to exceed eight hundred in number. Dr. Philip Leidy was port physician for Philadelphia in 1874, and a school commissioner. He was an occasional contributor to the medical journals.

THE MIDWIFERY DISPENSARY.

This most deserving institution, which we have more than once taken occasion to commend, has issued its first annual report, a document that abundantly justifies the praise that we have given the dispensary and its medical staff, and exemplifying the great value of the institution, not only as a means of much-needed relief to the poor women of New York, but as a very important source of instruction to medical students—instruction that has the special good feature of training them for family practice, which no strictly hospital experience quite accomplishes. The report itself is a valuable contribution to obstetrical literature. The gentlemen of the medical staff are to be congratulated on having creditably consummated a difficult undertaking.

THE LATE DR. ABRAHAM COLES.

By the recent death of Dr. Abraham Coles, of Scotch Plains, N. J., the medical profession has lost one of its most scholarly members. Dr. Coles's life was largely devoted to literary pursuits. Perhaps his best-known work is in the form of metrical translations of mediæval Latin, especially of the *Dies iræ*, of which he made thirteen different versions, "six of which," says the anonymous editor of *The Seven Great Hymns of the Mediæval Church*, published by Randolph, "are in the trochaic measure and double rhyme of the hymn, and all are sufficiently distinct and original to form the creditable work of thirteen different men."

ITEMS, ETC.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported during the two weeks ending May 5, 1891:

DISEASES.	Week ending April 28.		Week ending May 5.	
	Cases.	Deaths.	Cases.	Deaths.
Typhus	0	0	1	0
Typhoid fever	9	2	9	3
Scarlet fever	188	34	192	24
Cerebro-spinal meningitis	6	4	2	1
Measles	427	18	360	14
Diphtheria	73	29	72	16
Small-pox	1	1	1	0
Varicella	6	0	5	0
Whooping-cough	0	0	1	0
Mumps	0	0	1	0

The American Medical Association.—At the Washington meeting, which came to a close yesterday, officers for the ensuing year were elected as follows: Dr. H. O. Marcy, of Massachusetts, president; Dr. W. P. King, of Missouri, Dr. H. Palmer, of Wisconsin, Dr. W. E. B. Davis, of Alabama, and Dr. W. E. Taylor, of California, vice-presidents; Dr. R. J. Dunglison, of Pennsylvania, treasurer; Dr. W. B. Atkinson, of Pennsylvania, secretary. It was voted to hold the next meeting in Detroit, beginning on the first Tuesday in June, 1892.

The Kings County Medical Association.—At the next regular meeting, to be held on the evening of Tuesday, the 12th inst., a paper will be read by Dr. Jonathan Wright, on The Ætiology and Treatment of Atrophic Rhinitis.

Mount Sinai Hospital.—Dr. W. M. Leszynsky has resigned from the dispensary staff.

The Harlem Medical Association.—The programme for the meeting of May 6th included a paper by Dr. C. B. Meding on Conservatism.

The Medico-legal Society.—Papers for the next meeting on Wednesday evening, the 13th inst., are announced as follows: The Dangers of the New Alienism, by A. Wood Renton, Esq., of London; and Criminal Aristocracy, or the Mafia, by Mr. Arthur MacDonald.

Changes of Address.—Dr. B. Farquhar Curtis, to No. 307 Madison Avenue; Dr. Francis J. Quinlan, to No. 54 West Seventeenth Street; Dr. Parker Syms, to No. 55 West Thirty-sixth Street.

Society Meetings for the Coming Week:

Monday, *May 11th:* New York Academy of Medicine (Section in Surgery); New York Ophthalmological Society (private); New York Medico-historical Society (private); New York Academy of Sciences (Section in Chemistry and Technology); Lenox Medical and Sur gical Society (private); Boston Society for Medical Improvement; Gynæcological Society of Boston; Burlington, Vt., Medical and Surgical Club; Norwalk, Conn., Medical Society (private); Baltimore Medical Association.

Tuesday, *May 12th:* Missouri State Medical Association (first day—Excelsior Springs); New York Medical Union (private); Medical Societies of the Counties of Albany (semi-annual), Greene (annual—Cairo), and Rensselaer, N. Y.; Kings County, N. Y., Medical Association; Newark, N. J., and Trenton (private), N. J., Medical Associations; Camden (annual—Camden), Morris (annual), and Sussex (annual), N. J., County Medical Societies; Norfolk, Mass., District Medical Society (election—Hyde Park); Franklin, Vt., County Medical Association (annual); Baltimore Gynæcological and Obstetrical Society.

Wednesday, *May 13th:* Kansas Medical Society (first day—Wichita); Missouri State Medical Association (second day); New York Surgical Society; New York Pathological Society; American Microscopical Society of the City of New York; Metropolitan Medical Society (private); Pittsfield, Mass., Medical Association (private); Franklin (annual—Greenfield), Hampshire (annual—Northampton), and Worcester (annual—Worcester), Mass., District Medical Societies; Philadelphia County Medical Society.

Thursday, *May 14th:* Kansas Medical Society (second day); Missouri State Medical Association (third day); New York Academy of Medicine (Section in Pædiatrics); Society of Medical Jurisprudence and State Medicine; Brooklyn Pathological Society; Medical Society of the County of Cayuga, N. Y.; South Boston, Mass., Medical Club (private); Pathological Society of Philadelphia.

Friday, *May 15th:* Kansas Medical Society (third day); New York Academy of Medicine (Section in Orthopædic Surgery); Baltimore Clinical Society; Chicago Gynæcological Society.

Saturday, *May 16th:* Kansas Medical Society (fourth day); Clinical Society of the New York Post-graduate Medical School and Hospital.

Answers to Correspondents:

No. 355.—Address the Health Food Company, corner of Tenth Street and Fourth Avenue, New York.

Proceedings of Societies.

AMERICAN MEDICAL ASSOCIATION.

Forty-second Annual Meeting, held in Washington, D. C., on Tuesday, Wednesday, Thursday, and Friday, May 5, 6, 7, and 8, 1891.

The President, Dr. W. T. Briggs, of Nashville, Tenn., in the Chair.

The Address of Welcome.—The proceedings of the general session were opened at Albaugh's Opera House, with an address of welcome to the members and delegates by the Hon. J. W. Ross, one of the Commissioners of the District of Columbia. He characterized the association as representing a constituency more numerous and powerful than any other on the face of the globe and one whose influence could not be overestimated. No similar organization ever occupied the vantage ground held by the association for the discussion of topics calculated to enlarge its usefulness and power. One of the primary objects at which it was aiming was the promotion of such legislation as would tend to strengthen the profession in the performance of its duties. As a member of the bar he had often marveled at the fact that the common law, which respected the confidence that should exist between counsel and client, did not extend the same privilege and protection in the case of the physician and his patients. If any communication should be absolutely sacred and beyond the inquisition of the witness-stand, it should be the statements made by an individual to his medical adviser. He thought that the time had come when any suitably expressed statements of the rights and requirements of the medical profession in this matter to the great body of lawmakers in Congress would be treated with the most profound respect.

The President's Address.—In the course of his address the President reminded his hearers that they were met solely for the promotion of science and for the good of the human race, to maintain the honor and dignity of the profession, and to hold aloft the flag of honorable medicine. They were there to lay their contributions, the results of study and observation, upon a common altar for the common good; to worship at the sacred shrine of medicine and to renew their fealty to the noble profession to which they had devoted their lives and linked their fortunes. As physicians they had an almost superhuman mission to fulfill. The chief object of their professional work was to preserve life and insure health. The goal of their ambition and desire was almost at the end of human capacity. It was their province as well as desire to know all the secrets of natural organization. They would have the formative crystal and the germinal spot made transparent. They would enter the microscopic world and witness the wonders therein revealed, and would, if possible, search into and unravel the very mysteries of the vital principle. To this perfect knowledge did they aspire. It was doubtful if man's intellect, great as it was, could ever compass all that he so earnestly desired; yet, by constant and faithful work, he might approach nearer and nearer to its consummation. In every part of the habitable world blessed with the light of civilization, active, busy members of the profession, endowed with high culture and incited by the noblest resolves, were enthusiastically engaged in unraveling the mysteries of disease and seeking means and methods of treatment for the mitigation and relief of suffering and the prolongation of life. That the full benefit of the labors of American physicians might be attained and utilized, it was essential that the members of the profession, scattered over an area of country of almost inconceivable magnitude, should be brought into associated action and be organized into a body whose influence might be exerted over the length and breadth of the land, until a correct and noble sentiment was engendered in the mind of every member of the profession.

One of the great benefits conferred by the association was the establishment of an *esprit de corps* in the profession by the preparation and adoption of a code of ethics which comprised the great principles of truth, honor, and justice in regulating the relations of physicians to each other, to their patients, and to the public. This should be and was the written law, clearly defined, and of acknowledged force and effect, that prevailed from one end of the country to the other. It formed an impassable barrier between the sheep and the goats, the clean and the unclean, the physician and the charlatan. The strict observance of this code had done more than anything else to maintain harmony in the profession and to elevate it in the public estimation. It embodied the true spirit of the golden rule. Every one who entered the profession should be provided with a copy of the code, and should make it the guide of his medical life. It would serve as a talisman to the young physician, and would be the best safeguard against snares and pitfalls. It would seem that every honorable and high-minded member of the profession would be willing to indorse and be controlled by this code. It was to be regretted that there were some, who undoubtedly possessed a high order of talents and were justly distinguished, who had still an utter repugnance to the observance of certain parts of the code, and who held themselves aloof from the association in consequence. These gentlemen were probably as proud of the noble profession to which they belonged as any others were, and were equally anxious for the advancement of its interests, but could they conscientiously affirm that the motives by which they were influenced were pure and unselfish? Should these members put their opinion against the unbiased and unselfish judgment of the wisest and most experienced in the profession, nine tenths of whom were guided in their actions by the spirit and letter of the code?

The fundamental and chief object of those who had originated the association was the improvement of the American system of medical education, and the elevation of the standard of requirements for the professional degree. Never had there been a greater expenditure of effort illumined with genius and learning to accomplish these two great objects, and, though many of the ideas were, in a country so diversified in character and extent, probably somewhat Utopian, there had been a gradual elevation of the standard of education fully equal to the progress of the country in every other department of human learning. The speaker was ready to maintain that the advantages and facilities for medical instruction in this country, even at the present time, were quite equal to those of any other, and that the medical colleges had produced as able, learned, and successful practitioners as had ever been graduated from other institutions. While he was willing to admit that our transatlantic brethren had excelled in experimental work, this country had taken the lead in all the practical departments of medical science.

Now that the Medical College Association had adopted all the requirements for improved medical education which this association had been so long urging, and for which in fact it was established, it was eminently proper and important to pass a resolution that after the changes contemplated had gone into effect no medical man who had received a degree from a college that had not adopted the improved method of teaching, and no professor or *attaché* of such college, should be eligible as a delegate or member of the association. This great moral support was due to those colleges which had so heartily taken up the burden that the association had for nearly half a century carried on its own shoulders.

It might be well to call attention to the fact that original research and experimental investigation had not received the attention from American physicians which their importance demanded. The Government, while the most liberal and best in the world, had never seemed to comprehend that the cause of science would be greatly advanced and its own honor increased by the establishment of schools for original investigation and experimental research. It had not kept pace with other enlightened governments in scientific enterprises. Such work must in the very nature of things be left, for the present at least, to the progressive spirit that animated the universities and to private laboratories which were being established in different sections of the country. It would probably be advisable to establish a Section in Experimental Research, which would tend to advance science and be greatly to the interest of the work of the association.

It had been a happy conception of one of their most distinguished presidents to make the establishment of an association *Journal* the burden of his inaugural address, and so powerfully had he impressed the minds of the members that a journal had sprung into existence which had in a short time given evidence of its power in the advancement of its purposes. It might require years to bring it to the desired standard. To effect so desirable an object it was necessary to make provision for an ample annual income. Nothing less than from seventy-five to hundred thousand dollars should be considered ample. Next in importance to its financial needs was the selection of an editor, able, learned, and highly endowed with editorial tact and business qualifications, who would devote all his time and talent to his editorial duties. He should be empowered to spend money liberally in obtaining scientific material, original communications, translations, and reviews from every part of the world. He should have absolute control in the selection of matter for the journal. To such an editor a salary should be given that would render him independent. The sum should be not less than ten or fifteen thousand dollars a year. The necessary funds could, by proper exertion, be easily raised, and would not only sustain the journal in the best style, but afford a sum in addition which could be used in many ways to the advantage of the association. The future location of the journal was a matter of such importance as to require careful consideration. Its weal or woe might depend upon the action taken at the present meeting. It had been suggested that the *Journal of the American Medical Association* should be moved to Washington, and it had been determined to submit the question to the members and delegates present at this session. He would beg the delegates and members of the association to consider well every side of this question before committing themselves to a vote. The *Journal* had now its home in Chicago, and had been there for eight years. It had already become the peer of many of the great weeklies of the country, and, if properly sustained by the profession and wisely and energetically conducted by its managers, it would become the recipient of the best thought of this country and the worthy exponent of the American profession. It had been proved that it could be more economically published in Chicago than in Washington, which latter city was by no means an important scientific or professional center. But it was the great center of American politics, to which everything was made subordinate, and it would be impossible, if the *Journal* was published in that city, to prevent its becoming contaminated by the political air.

The Relations of Contract Surgeons to the General Profession.—A special committee, appointed last year by the Medical Society of West Virginia to consider this subject, memorialized the association and appealed for its active co-operation to effect the redress of alleged abuses. The memorialists asked consideration of the question as to how far the rules adopted by railroad corporations for the government of the surgeons in their service infringed upon the rights of the profession at large as set forth in the code of ethics of the American Medical Association. It was well known that large bodies of men were in the employ of these corporations, and that these men lived in widely-scattered communities. The corporations had established systems of employing contract surgeons to attend to employees and passengers injured by accidents. It was also well known that these corporations had adopted rules for the government of the surgeons and of those injured which demanded that these surgeons should assume entire charge of such employees or passengers when injured, regardless of the rights of any outside medical men who might have been summoned and be in attendance upon the injured prior to the arrival of the company's surgeons, even though the physician first in attendance might be the family physician of the injured person. Notice had been given in most cases by the railroad companies waiving all responsibility in respect of injuries treated by non-contract men. It was assumed by the memorialists that this condition of affairs placed the contracting surgeons in direct conflict with the spirit of the code of ethics, and was an infringement upon the rights of the physician first called. The practice of accepting passes as compensation or in lieu of the regular fees was detrimental to the profession's interests by lowering the standard of surgical services, and was further demoralizing. It gave to these wealthy corporations services at far lower rates than the profession charged to individuals. It seemed that if members of the profession were at liberty to make contracts to furnish an unlimited service of the kind referred to for passes, and in some cases for small fixed money payments, without affecting their ethical standing, all stigma of unethical or unprofessional conduct should be removed from those of the profession who contracted with private individuals to furnish medical or surgical services, including medicines, by the month or year for fixed sums. A special committee was voted to sift the facts in respect to the points alleged in the memorial.

The Rush Monument Fund. — This subject was again brought before the association by Dr. A. L. Gihon, who for the seventh time reported slow progress toward the accumulation of the required fund. He made an earnest appeal for more enthusiasm in the matter, and propounded certain schemes that might be adopted for the purpose of raising the necessary money, which were approved.

The Address in General Medicine.—Dr. E. L. Shurly, of Detroit, delivered this address. He said he should present for consideration some points bearing on the relation of micro-organisms and toxines to the so-called zymotic or infectious diseases. Though laboratory work had done more than any other branch of science toward clearing up many vexed questions about physiological and pathological activities, yet, to be of lasting value and guidance, it must agree with general and clinical observation, and there were instances where laboratory and clinical observations had crossed swords. He was aware that it was generally accepted that bacteria or their spores were the essential cause of most, if not all, of the infective diseases, and the results of bacteriological investigation during the last few years would seem to support such a doctrine for the following reasons: 1. They could be isolated by color reactions and thus directly connected with the diseased body when found. 2. They required a certain time for development, corresponding to the period of incubation of such diseases, many of them being ectogenic and saprogenic, anaerobic or aerobic. They could thus live until the opportunity for invasion offered. Being endowed with life and multiplying enormously, they could resist destruction. Being protoplasmic and microscopic, they could more readily affiliate with animal fluids, cells, and tissues existing in a passive or quiescent state as well as in an active one. They could behave like vegetable seeds or spores, and preserve a long period of latency. For these and other reasons that might be adduced, we were led to believe that bacteria must be the cause in some way or other of the zymotic infectious diseases. But the question arose, How did they effect this result? Was it by mere local growth as parasites, or by the secretion of a material from themselves? In other words, were they secreting cells or did they induce at once chemical changes or fermentation of a destructive character with the formation of poisonous substances? It would be seen that many observers who were strong in their faith in the microbic origin of disease had not in every instance looked fairly at the question. The statement that no case of genuine cholera had as yet been reported in which the comma bacillus was absent had been disproved. In what bacteriological life were exemplified certain effects that had been observed connected with development? The career of bacteria *ad interim*, from one animal to another, was not well known. In the case of many of them, spores had never been demonstrated or their behavior formulated. Most of the species were destroyed by the healthy fluids or tissues, and hence their destiny depended upon a favorable nidus or pabulum, which meant disease. It was obvious that artificial culture in media outside the body or in the lower animals could only approximately reflect their real natural growth and development, for in no instance was it possible to transfer the artificially cultivated micro-organisms to an animal with the absolute certainty that nothing else accompanied the bacteria. That certain species only appeared to be pathogenic implied a state of specialization analogous to that of living nucleated cells. That their action was local primarily in all cases might be assumed, because their behavior in no way showed that they themselves invaded or maintained their existence in the blood or lymph. Therefore it was possible that pathogenic bacteria developed only where previous disease or an abnormal state of the body suitable to them existed; that, having found such, they took root, as it were, and by their catalytic action primarily, and secondarily by giving rise to a particular toxine, which in turn acted selectively as a tissue poison. If the bacilli of tuberculosis immediately produced the several diseases known as tubercular, why should any previously prepared nidus be necessary? If they or their still undemonstrated spores were constantly invading us, which was undoubtedly true, they must at once be destroyed, or, by gaining access to the fluids of the body, must set up, mechanically or otherwise, inflammation and their peculiar effects as any other foreign body would. But, as such micro-organisms must find just the proper conditions for development or not develop, we might assume that such a result implied previous disease, such as caseation, whether tuberculous or not. Complex and delicate processes attended the changes of proteids, and by radical or atomic substitution one might be changed readily into the other. We could see how probable it was that these micro-organisms might operate by a peculiar property which enabled them to decompose or exercise a catalytic action on certain states and kinds of proteids. It was manifest that diseases arising from the presence or entrance of micro-organisms must be therapeutically treated by attacking the cause or neutralizing its operation. The bacteria produced for themselves or from the organic substances which they attacked a poison which could be cultivated outside the body in some instances. Pathological chemistry had not demonstrated with exactness the nature of all these poisons, or classified them, but it was fair to believe that this would be done in the near future. Although it was generally supposed that inorganic chemicals were not tissue poisons, but acted only upon the functions through the nervous system, still this view did not obtain when we observed the changes produced by iodine, bromine, phosphorus, arsenic, and the silver, gold, platinum, and cupric salts, besides some of the vegetable alkaloids. In consideration of the changes that many of the remedies underwent in the stomach and intestines by oxidation or other processes before their absorption, it seemed to the speaker that the rational mode for the administration of drugs was to give them hypodermically, and in this way it was possible to command effects which could not otherwise be attained. Dr. Landerer had obtained beneficial effects in phthisis from hypodermic injections of balsam of Peru. Behring had recently found that a number of chemical substances used hypodermically—such as aurochloride of sodium, naphthaline, and trichloride of iodine—were capable of neutralizing the poison of diphtheria in guinea-pigs, the latter substance being the most active of all. The same observer had also practiced in diphtheria, and with good effect, the inoculation of animals with bacillus cultures. Better effects had been obtained from the administration of bromide of gold by injection than from the bromide given in the ordinary way. The prompt results in the treatment of erysipelas with carbolic-acid injections were well known. The superior effects of the treatment of syphilis by the hypodermic injection of cyanide and bichloride of mercury and chloride of gold and sodium were striking. The hypodermic injection of chlorodyne in profuse diarrhœa was superior to its administration by the mouth. Ergot administered, even in considerable quantities, by the mouth would often fail, whereas one, or at most two, hypodermic injections of one tenth or one fifth of a grain of ergotin would generally stop a severe attack. Digitalis also acted upon the cells and vascular system more certainly when so administered. He might also mention the beneficial effects of strychnine used in the same manner in typhoid conditions. That animal poisons could be neutralized in the body he believed would soon be generally demonstrated. The recent experiments of Tyndale, of New York, for the cure of tuberculosis by vaccination promised well. Hemmeter had stopped the diphtheritic process by the inoculation of the patient with an erysipelas toxine, and it was stated that persons suffering from tinea tonsurans were proof against diphtheria. This would seem to show that there must be a sort of antagonism between animal and chemical poisons. Why could not more universal application be made of this principle with a view to obtaining more specific therapeutic agents? His object in choosing this subject had been to awaken a more general interest in physiological and pathological chemistry, and thus hasten the period of release from empiricism.

The Address in Surgery was on Stricture of the Rectum; its Ætiology, Pathology, Symptomatology, Diagnosis, and Treatment, by Dr. J. H. Matthews, of Louisville. He said he realized that in discussing this subject he should take positions contrary to the accepted teachings of the day, but assumed that the one great object of the meetings of this association was to elucidate and discuss subjects that were in doubt, those that were mooted. In considering the classification of the varieties of stricture of the rectum as given by Dr. Kelsey, he said that the idea intended to be conveyed by the term was that of a pathological change in the tissues, a deviation from the natural state brought about by disease; hence he objected to the consideration of congenital malformations of the rectum, or to defining them under the head of strictures of the same, for the reason that it was misleading to do so. It would be more to the point to call them atresias of the gut. Exception could also be made to the term acquired stricture, and it was very easy to understand how one could acquire a stricture as the result of venery, but difficult to understand how one could acquire a spasmodic or cancerous stricture. He would adopt, for the sake of discussion, the classification into—

1. *Spasmodic.*—To this form of stricture he should prefer two objections. First, if it was true that such a condition ever existed, which he doubted, then it should not be classed as stricture at all, for the reason that no pathological change was manifest such as was necessary to constitute a stricture, and no treatment could be given it *per se.* In other words, it would be a symptom of some lesion or trouble outside the one called stricture. Secondly, he believed that, from the anatomical construction of the rectum, it would be utterly impossible for its lumen to be so constricted by spasmodic contraction of its muscular fibers as to be perceptible as an obstruction. In all his examinations of this part of the gut he had never seen a spasmodic contraction that could be called a stricture.

2. *Dysenteric.*—Although it was frequently stated that dysentery was a common cause of stricture of the rectum, he had never seen a case that convinced him of the truth of the statement or that it was a cause at all. He had many times seen patients who gave him a history of having had dysentery, and who were treated for a long time for the affection; but close scrutiny of the case had revealed the fact that the so-called dysentery was caused by an already existing stricture and ulceration. Dysentery was the result, not the cause, of stricture. If a long-continued irritation was kept up in the rectum from any cause, the result would be, of course, an inflammatory exudate, resulting, perhaps, in ulceration and stricture; but, in searching for this as a cause, the road to a conclusion had not been plain enough for him to put dysentery in the list as a cause at all for stricture of the rectum.

3. *Tubercular.*—Since the discovery of the tubercle bacillus it was self-evident that tuberculosis was often met with in the mucous membrane and other structures of the rectum. If stricture and ulceration was the term used, he could make no objection to the classification of tuberculosis as a cause of ulceration. That ulceration frequently resulted from this diathesis or dyscrasia no one could doubt, or that the coincident stricture followed as from other well-known causes—notably syphilis—he could not agree. The disposition of tuberculous tissue everywhere was to break down. Before the capacious rectum was filled with tubercular deposit sufficient to stricture it, it would have broken down from ulceration, and so on; and it must be by deposition only that we could conceive of stricture from this cause, because cicatrization was so rare and so feeble in these parts that it would be the rarest accident to find it. In no instance had he ever seen a stricture of the bronchial tubes the result of tuberculosis. There would be just as much reason to expect it here as in the rectum; indeed, more.

4. *Inflammation.*—This term was so broad and comprehensive that we must admit inflammation as a cause of stricture of the gut—indeed, as the one grand and common cause. In no other way could a stricture be formed. It might be argued that a lesion or wound existing in the bowel, by the reparative process healed and left cicatricial tissue, and that the stricture was the result of the cicatrix, and not of plastic infiltration of the tissue. But there could have been no cicatrization if there had been no inflammatory process. If he were asked what was the prime cause of stricture of the rectum, he would answer, Inflammation. What caused the inflammation in many cases he did not know, but, ordinarily, it was syphilis, cancer, or trauma—if by trauma was meant a wound or lesion from any or many causes. Outside of the two first named, cancer and syphilis, he was satisfied that no one could tell the cause that originated the stricture. He wished to reiterate that, outside of these two well-recognized causes for stricture of the rectum, he was not prepared to admit any other as a well-known, recognized, indisputable cause.

After elaborating the points in the diagnosis and pathology of stricture, the speaker went on to deal with the question of treatment, premising that he should adhere in the strictest sense to the pathological condition—namely, a stricture. This entirely ruled out the treatment of proctitis or the subsequent ulceration, which was one cause of stricture, and brought him directly to the means of treating that which was the result of said causes. It must be granted that many times ulcerations which would otherwise end in stricture were cured before that condition resulted. This could not hold in cancer, and possibly not in syphilis. The methods practiced to-day for treating stricture of the rectum were: first, dilatation; second, incision; third, electrolysis and raclage; fourth, excision; fifth, colotomy. Of course, under the division he had made, general treatment was ruled out, and the gradual dilatation of the stricture was objectionable for the reason that by this form of repeated irritation more plasma was thrown out and the strictured surface increased. It might be true that some temporary relief was afforded, but upon the contraction of the tissue more was lost than had been gained. He did not hold the view that by the passing of bougies through the strictured surface absorption of the tissue was caused, but believed that the converse was true. Why forcible divulsion was seldom applicable in these cases he could not understand. If a fibrous stricture existed, forcible divulsion was the best method. To-day we did not fear hæmorrhage, because we understood how to control it. He was very positive, then, in saying that, if dilatation of a stricture of the rectum was decided upon, it should be a forcible and a radical one. He was very partial to incision or incisions for the relief of stricture of the rectum. Of the two operations recommended, internal and external posterior linear proctotomy, he preferred the internal. It was urged for the external, which consisted in not only cutting through the strictured surface, but also in dividing the sphincter muscle, that it was all-important to get the necessary drainage. He did not think so-and if he did, he believed the ill effects of dividing the sphincters outweighed the matter of drainage. His plan was to introduce a three- or four-valve speculum and, after dilating sufficiently for the purpose, a long, sharp knife was used to divide the constrictions of fibrous tissue down to a healthy base—not only in the median line, but in several places around the circumference of the gut. He then placed a tampon, through which was inserted a metallic tube for drainage and the escape of gases. This tampon was aseptic and usually dusted with powdered persulphate of iron. On the fourth day it was removed and the rectum was irrigated with the mercuric solution. If the operation was done effectually, he had never seen the necessity of employing the bougies afterward for the purpose of dilatation.

Excision.—He thought a better term to employ here would be extirpation. Excision of a stricture of the rectum conveyed but little idea of the operation. He could not appreciate the idea of excising a benign stricture. Extirpation of the rectum for malignant disease was an ideal operation. It was an axiom in surgery that in operating for cancer the whole growth must be removed, together with the glands that were involved. If the growth extended beyond the point where it was prudent to operate, it was best not to attempt its removal, except, perhaps, for total obstruction, not with any idea of cure. Kraske's operation was admirably suited to cancerous stricture. It consisted in resecting the diseased part through an opening made at the left side of the sacrum. This operation was only applicable in a certain class of cases. If the sigmoid flexure was involved, it would be of no use. According to this method, the soft parts were divided in the median line from the second sacral vertebra to the anus. The muscular attachments to the sacrum were divided as far as the edge of the opening on the left side. The coccyx was removed, the attachments of the two sacro-sciatic ligaments to the sacrum were cut, and the soft parts were drawn to the left side. If still more room was necessary, it might be gained by removing a part of the lower left side of the sacrum. If the bone was divided on a line beginning on the left edge, at the level of the three posterior sacral foramina, and running in a curve with the concavity to the left through the lower border of the three posterior sacral foramina, and through the fourth to the left lower border of the sacrum, the more important nerves were not injured and the sacral canal was not opened. In this way the lower part of the rectum as far as the sigmoid flexure might be resected. It would be found in this operation that the dissection was a very difficult one.

As to colotomy, he was forced to conclude that none of the arguments in its favor, instead of other methods for cancerous stricture, could be substantiated in fact. If he were asked when colotomy was justified in cancer of the rectum, he would answer, Not at all. But if there was total obstruction of the sigmoid flexure from a cancerous mass, colotomy would be justifiable. Whenever a stricture other than malignant, especially when caused by syphilis, was located in the movable part of the gut or in the sigmoid flexure, either causing total obstruction or about to cause it, colotomy should be done. By this we prolonged life indefinitely. If, then, it was decided to do colotomy, which of the two operations was preferable—the lumbar or extraperitoneal, or the iliac or intraperitoneal? He thought the anatomical phrase used in designating the two should decide it.

The Association's Journal.—The vexed question as to whether the publication of the *Journal* of the association should continue in Chicago or be removed to Washington, which it was supposed would form the subject of warm debate, was settled by an overwhelming vote to maintain the present arrangements.

Recommendations for change in the editorial and business management of the *Journal* were rife.

NEW YORK ACADEMY OF MEDICINE.

Meeting of April 2, 1891.

The President, Dr. A. L. Loomis, in the Chair.

Lupus.—Dr. H. G. Piffard read a paper with this title, opening his subject with a historical epitome of the views of the earlier dermatologists upon the question of lupus. He referred to Hardy as having used the term "scrofulides" as a collective designation for the various cutaneous affections which, in his opinion, were of a scrofulous origin, and in this category he had included lupus.

Erasmus Wilson had also expressed his belief in the dependence of this disease upon the so-called scrofulous diathesis. These and other astute observers had based their conclusions upon the verifiable fact that lupus was so frequently associated with chronic pulmonary trouble. This association was either by heredity, propinquity, or the fact that phthisis pulmonalis was the usual termination of long-standing cases of cutaneous lupus.

To the speaker this connection had seemed so frequent and so close as to make it impossible to accept any other idea than that which predicated a common underlying cause for both phthisis and lupus.

This view, as well as his conviction as to the strictly infectious nature of the affection, he had written and taught for a number of years. Then had come the discovery by Koch of the bacillus of tuberculosis and its relation to pulmonary phthisis, followed by the discovery of an apparently identical microorganism in one of the forms of lupus and in certain other cutaneous lesions. The classification of scrofulides as made by Hardy was the phlegmonous, erythematous, and corneous, constituting lupus erythematosus, the pustular scrofulide with superficial ulceration, or lupus vulgaris, and the tubercular scrofulide with deep ulceration, or lupus exedens.

It was only in lupus vulgaris that the tubercle bacillus had been so far demonstrated. It had, however, been found in the so-called tuberculosis cutis. The speaker had, nevertheless, under the common title of tuberculides placed the phlegmonous scrofulide, lupus erythematosus, and lupus exedens as affections in which he believed the characteristic bacillus would yet be found. Lupus exedens was by some modern authors rejected as a variety of lupus and grouped with the epitheliomata. The speaker, though not agreeing with this view, thought that there really was a closer connection between epithelioma and lupus in all its varieties than was at present admitted. He then reviewed the methods of treatment of this affection which had been in vogue for the past twenty-five years, urging as a *sine qua non* of radical and permanent cure the destruction or removal of every portion of the diseased tissue, for it was not until every outlying cell had been thus dealt with that security from relapses could be hoped for or conscientiously promised. To effect an apparent and temporary cure of lupus was easy of accomplishment in a variety of ways, but the dermatologist knew that to effect a permanent result resort must often be had to series of operations. The *modus operandi* followed by himself had been the combined method of scraping and cauterization. He did not now use the cautery at a white heat, as the carbonization of the tissues instantly produced formed a protective to the further penetrating action of the instrument and allowed outlying morbid elements to remain untouched. He found the red heat more thorough in effect. During the past year he had practiced another method which he believed to be original. This consisted in making scarifications and cross scarifications with a small sharp-edged platinum knife heated to a dull red with electricity. With this instrument he cut through the entire thickness of the skin, commencing the incisions in the apparently healthy portions of the tissue and carrying them through the lesion to the opposite healthy side. He thought that the curette, cautery, and the excision were the most satisfactory methods of dealing with the disease, and would effect a cure if properly and thoroughly done. The speaker then went into an elaborate consideration of the treatment of lupus by Koch's tuberculin, the gist of his conclusions being that practically no cases of cure had thus far been satisfactorily demonstrated, and that six months or possibly a year must elapse before an absolute verdict could be rendered in any given case. When the cicatrices had lost their rosy hue and become completely blanched, a cure might be assumed. Still the remarkable fact remained that the Koch "lymph" did certainly produce decided changes in lupus which were apparently in a direction of cure, and changes such as had never been induced by any other medicinal agent at present known.

Dr. H. N. Heineman, in the course of a statistical statement of the effect of the treatment of lupus so far by himself at Mount Sinai Hospital and the Polyclinic, emphasized the importance of commencing the use of the tuberculin in the smallest doses without reference to the printed directions which accompanied it. Care in this regard would avoid an element of danger. No practitioner was justified in commencing the use of this remedy until he had informed himself of its power and the possible mischief it might cause.

Dr. H. P. Loomis narrated the results of the treatment of four cases of lupus by tuberculin at Bellevue Hospital. One of the cases was an advanced condition of lupus vulgaris, another of lupus erythematosus, one of epithelioma simulating lupus, and the fourth one of lupus vulgaris. In the first case, that of a colored boy, the disease had made its most pronounced ravages upon the face until the patient was a ghastly object. Undoubted improvement had resulted from the treatment, but the boy had got homesick and had left the hospital before the course was completed. In the second case the patient had received in all thirteen injections, the largest dose being fifteen milligrammes. After the first few injections the lupus patches had become less and less angry and were smaller in extent, and crusts had begun to form. This improvement had continued for three weeks, after which no subsequent injection had made any impression upon the disease. Treatment was continued for a month and then stopped. A week afterward the patient presented the same appearance as when he had entered the hospital. No subsequent injections had produced any improvement. In the third case the results were negative. In the fourth case, one of long standing and complicated with epithelioma, the present appearance of the patient seemed to warrant the assumption of a cure having been effected. The injections had also seemed to cause local disturbances in the epithelioma, but no curative process had occurred in this to warrant the hope that it had been permanently benefited.

Dr. R. W. Taylor thought that Dr. Piffard had been handicapped by the existing state of the want of knowledge regarding lupus, and had failed in defining what lupus really was. Hutchinson considered the question of its origin as still *sub judice*, and defined it as any chronic inflammation of the skin, of an infective character, progressing by extension of its margin or by satellite indurations, and probably going on without degeneration and ending in a cicatrix. The author of the paper seemed to have accepted wholly the theory as to the bacillary origin of lupus. As a matter of fact, physiological researches had been few and meager in this direction. A few bacilli had been found in the skin, but nothing was known of the mode of their implantation or propagation or the appearances produced in newly infiltrated areas. Unless these points were cleared up our knowledge was not worth much. Dr. Piffard's statement that lupus was often found associated with tuberculosis of the lung was contrary to the opinion of dermatologists.

Dr. G. H. Fox had never seen a case of lupus in which removal by the knife seemed to be indicated and in which some other and more simple treatment had not offered a better result. He did not believe in the actual cautery as a means of treatment, because, while the surface of the lupus patch might be thoroughly cauterized, it was impossible to say whether the whole lupus tissue was destroyed or not. Again, this method, if it was to be thorough, required the destruction of so much healthy skin. It was his habit to use caustics after curetting and scarification. As to Koch's tuberculin, he had never been enthusiastic, still he was more inclined than he had been to believe that it might yet prove a very valuable remedy.

Dr. P. A. Morrow, commenting on the value of Koch's treatment, said he did not think that dermatologists familiar with the chronic nature of lupus and its tendency to obstinate recurrence were disposed to accept the doctrine of cure by tuberculin within a few weeks; still he did not believe that a limit of twelve or eighteen months was necessary to determine a cure. The statistics from both the French and German fields of observation, which had been apparently compiled in the fairest manner, were by no means encouraging, and should have great weight in making up any estimate of the value of the treatment.

Dr. E. B. Bronson remarked that the effect upon his mind of observation of the new treatment had been decidedly unfavorable. While he had seen marked improvement take place in one case, the ultimate result had been very unsatisfactory, and in another three months' treatment had produced absolutely no result, though the injections had been increased from one milligramme to five centigrammes.

Dr. Piffard said he did not know whether pulmonary tuberculosis and lupus were associated in their incipient stages, but there was no question as to their subsequent association.

Public Baths.—Dr. S. Baruch asked for and received a recognition by vote of the efforts he was making to establish a universal system of free public baths for New York.

SECTION IN ORTHOPÆDIC SURGERY.

Meeting of March 20, 1891.

Dr. Samuel Ketch in the Chair.

Lateral Curvature of the Spine.—Dr. A. B. Judson presented a patient, a girl of eleven years, in whom there was marked lateral curvature of the spine, although the line of the spinous processes was straight. The curvature in this case was confined to the bodies of the vertebræ, which were displaced toward the left with the usual signs of rotation of the anterior portion of the vertebral column toward the left. The left scapula was raised, and its posterior border projected sharply backward, an obliquity best seen when the shoulders were observed from above. Stooping developed prominence of the ribs on the left side. Palpation showed the diameter of the chest from the right mammary line to the angles of the left ribs larger than the corresponding dimension of the other side. The case illustrated the important clinical fact that the gravity of lateral curvature was not to be measured by the curve seen in the spinous processes, but rather by recognizing the amount of rotation. The patient had been under observation two weeks, and the deformity was first noticed by the mother last summer.

Dr. H. L. Taylor said that after the child had become tired by standing in one position there seemed to be a slight deviation of the spinous processes, and lateral flexion in the dorsal region seemed a little more restricted toward the left.

Dr. Judson replied that it was common for the degree of deformity to vary with rest and fatigue.

Traumatic Separation of the Right Parietal and Occipital Bones.—Dr. T. Halsted Myers presented a boy, five months old, who had presented nothing abnormal until two months before, when he had fallen on his head. The injury was quickly followed by great swelling, which gradually diminished. There was no paralysis and no mental change. Examination showed a cleft in the region of the right half of the lambdoid suture, an inch wide and four inches long, through which a fluctuating mass protruded, probably the membranes distended with cerebro-spinal fluid. It became tense as the child cried, transmitted the cerebral impulse, and on pressure disappeared almost entirely, with correspondingly increased prominence of the anterior fontanelle. The posterior border of the parietal bone seemed also to have suffered a green-stick fracture a third of an inch from the edge of the fissure.

Adjusted Locomotion in the Treatment of the Recovering Stage of Hip-joint Disease.—Dr. Henry Ling Taylor presented a paper on this subject. He said that the tendency of inflammation of the hip joint was toward recovery if favorable conditions were provided. In the stage of acute and progressive inflammation the treatment by position and counter-extension in the line of deformity counteracted muscular spasm and protected the joint, and when combined for a short time with recumbency, usually afforded prompt relief to the urgent symptoms, and, if persisted in and modified to meet the varying requirements of the case, ushered in the stage of repair and recovery. The case of a boy, six years and a half old, who had suffered from hip disease for a year and a half and had worn a short splint for nine months, was cited to illustrate the prompt relief from properly applied extension, which caused cessation from night cries at once, and within a week improved the appetite, appearance, weight, and deformity, although he had been rapidly losing ground for several months. The later stages of these cases, in their progress toward recovery, presented just as definite though different indications for treatment. As pointed out by Dr. C. Fayette Taylor some twenty years ago, the patient was ready for the motions of walking before he was able to bear weight on the joint. It was not usually for the patient's interest to allow him to walk as soon as active symptoms had disappeared, nor to keep his leg suspended passively or in a stiff splint for too long a period. His recently diseased and disused joint and its appendages should be trained and developed, and the reparative process stimulated by the systematic and orderly employment of those elements of locomotion that might be made beneficial, while harmful elements were eliminated. In most cases this could be conveniently done by the use of the jointed supporting splint, or Dow's, which took the weight of the body upon a perineal strap, but allowed the patient free motion at the hip, knee, and ankle. In those recovering cases which presented a strong tendency to adduction of the thigh this might be combated by the elimination of adduction in locomotion, and in all positions, by the use of the perineal crutch bearing in the opposite groin, as described to the Section two years ago. The point was to let the patient have the benefit of the local and general tonic effect of walking, without its harmful pressure and strain, at a comparatively early period in the treatment, and to adapt locomotion at all times to the needs of each particular patient. We possessed the mechanical means of doing this satisfactorily. Patients were so comfortable and, as a rule, progressed so satisfactorily under this treatment that there need be little temptation to discharge them before a cure was accomplished, even if the supporting apparatus was worn for years. Some of the most satisfactory ultimate results had been after the longest periods of treatment.

The plan above outlined had secured greater comfort and freedom of the patient during a large part of the treatment, and, he was convinced, a larger proportion of good recoveries, as evidenced by better position, more motion, more perfect repair, and greater usefulness, than was usually observed after the other methods of treatment.

Dr. Judson thought that the apparatus should be removed gradually, the patient being closely observed after each step of relaxation of treatment. Protection from the weight of the body should be the last thing remitted, and the paper had admirably accented the value of the perineal crutch or of the Dow splint in thus protecting the affected and convalescent joint.

Dr. W. R. Townsend thought that orthopædic surgeons were pretty well agreed as to the necessity for a gradual discontinuance of mechanical appliances, but just when this removal of apparatus should be begun was a most perplexing question. Where the acute symptoms returned, even after a considerable interval, it was an indication that the apparatus had been removed prematurely, and not that the case had relapsed. Dow's splint, although an excellent instrument, was too expensive for dispensary practice, and, accordingly, it was the custom in the Out-patient Department of the Hospital for the Ruptured and Crippled to convert the ordinary long extension splint into a "caliper splint" by removing the adhesive plasters and fastening the splint to the shoe, so that it might be used as an outside crutch. Flexion at the knee was next allowed, and this, by developing the quadriceps muscle, resulted in rapid and marked improvement. After an interval of from three to six months the apparatus was removed and the patient allowed to go about with a cane for several weeks.

Dr. A. M. Phelps said that the first step in the management of these cases was the treatment of the deformity, and if this was overcome at the outset, relapses were very infrequent. He was of the opinion that patients who were allowed to walk upon the old-fashioned hip splint experienced an increase in the deformity, and therefore he advocated the use of a very high shoe, with crutches, associated with absolute immobilization of the hip joint. Fixation was not secured by the long traction splint or any other splint which did not pass up beyond the hip joint. The first essential for successful treatment of an inflamed hip joint was rest. Contrary to the teaching of some, among others Dr. L. A. Sayre, motion did not prevent ankylosis; in fact, it sometimes caused it. Regarding the removal of apparatus, his rule was to reapply the apparatus if the motion became more limited, but to discontinue its use if motion increased.

Dr. Royal Whitman remarked that the great disadvantage of treatment with crutches was that they were abandoned without the advice of the attending surgeon, and on this account he thought that the ordinary traction splint was the best compromise that could be made, especially for dispensary practice.

The Chairman said that in the matter of the removal of apparatus each case must be a law unto itself. The Dow instrument had proved very successful in his hands, but some years ago he had been in the habit of employing the old traction splint by stitching the buckles to the shoe. The disadvantage of this arrangement was that sometimes it produced traumatism. More recently he had made use of a modified Dow splint with perineal band, perineal straps, and snap-joint at the knee, and so adjusted within the shoe that a certain amount of traction could be secured without the use of adhesive plaster.

Dr. Taylor said that he did not claim that the long traction splint gave perfect fixation of the joint, but, as he believed that counter-traction was practically more important than positive fixation, he favored the former method in the acute stage. He agreed with Dr. Phelps on the necessity for overcoming deformity at the beginning of treatment, and this could usually be done by physiological methods. When to discontinue all treatment was a matter for individual judgment; if motion increased after the patient's discharge, it was a good indication that the step had not been taken too early. The treatment outlined by Dr. Townsend was excellent, and apparently the working out of an idea similar to that set forth in the paper. The point to be emphasized was that it was not necessary to deprive the patient entirely of locomotion until he was completely cured, but that by selecting those elements of locomotion suitable for him he might enjoy the tonic effects of walking, with due protection to the joint during the greater part of the treatment, and this protected walking should be continued a long time if necessary.

In answer to a question as to when he would ordinarily apply the Dow instrument in very young children, Dr. Taylor said that he thought the average time was about six months of treatment with the traction splint.

A New Automatic Traction Hip Splint.—Dr. T. Halsted Myers presented such an instrument. It consisted of the ordinary long traction hip splint made with a short sheath and long extension bar, with the addition of a second sliding foot-piece, to which the leg plasters were attached, and of an adjustable spring to exert the traction. The second foot-piece slid on the extension bar only. Around and above this was a spring about eight inches long, whose pushing power was regulated at will by a movable circular band, which could be fastened to any part of the extension bar above the spring by means of a screw. To adjust the splint, the band above the spring was moved toward the foot-pieces (which at first were close together, one on the other) till the spring was contracted to the desired extent and then fastened there. There was now a downward pressure on the sliding foot-piece of the desired amount. The splint was next applied to the patient, the upper foot piece buckled to the plasters so as to touch the sole of the shoe. The extension bar was now keyed out, carrying the lower foot-piece away from the upper one three quarters of an inch. This also carried the band above the spring down and increased the power of the spring somewhat—just how much depending upon its length, the distance between its coils, and the weight of the wire. When the weight of the body was carried by the splint, any tendency for the straps to bag was overcome by the downward traction exerted by the uncoiling spring, and thus a more equable traction was exerted than had heretofore been possible.

The Chairman referred to a somewhat similar spring apparatus which had been devised by Dr. N. M. Shaffer. At the first meeting of the American Orthopædic Association the speaker had exhibited a very simple arrangement which he had devised. It consisted in using a strong piece of band rubber buckled into the traction straps instead of the usual leather straps. He had found its action satisfactory.

Dr. Judson said that the relaxation of the straps at the foot of the hip splint had been frequently discussed. He thought it was best obviated by providing an apparatus as nearly inflexible as possible. Also, if the pelvic band was worn at a high level, the strap, being long and deeply curved, allowed the patient's body to descend, when he stood, farther than it would if the pelvic band was at a low level, and the strap crossed it in a direction more nearly horizontal. But it was questionable whether the relaxation of the straps was of serious moment, because when the patient stood the traction made by the weight of the leg took the place of the traction previously made by the adhesive plasters when the patient was recumbent, and was practically much greater and more equable and comfortable. The joint might be "pumped" when the patient walked without any apparatus, because it was subjected to, and relieved from, the weight of the body above, and the weight of the limb below, at every step. Or, pumping might occur when the patient, wearing the splint, repeatedly lay down and stood up, because then there was an alternation between the great weight of the limb, which produced traction when the patient stood, and the force of mechanical traction, which was comparatively small, and took effect when the patient was recumbent. The only pumping which the joint got when the patient walked with the hip splint was that which came from the recurrence and removal of the weight of the splint attached to the limb by adhesive plasters. This interference with the repose of the joint should be conveniently prevented by suspending the splint from the opposite shoulder by properly adjusted webbing.

Dr. Townsend said that the "pumping" action to which the previous speaker had alluded was one of the great objections urged against the long traction splint. He was much pleased with the new splint which Dr. Meyers had presented, but he thought there would be much less heard of this sagging of the straps if attention was paid to the adjustment of the splint in the erect as well as in the recumbent position.

Dr. Taylor agreed with Dr. Judson as to the part played by the splint and band in causing this sagging, and therefore, if the band was discarded and in its place some substitute used, like the one which had just been exhibited by him in connection with the Dow instrument, part of this trouble would be obviated. The traction produced by the weight of the leg was usually sufficient, and hence the traction splint became a crutch during locomotion, and an extension splint when the patient was sitting or lying. One of the chief advantages of this splint was that it protected the joint in all positions.

SECTION IN OBSTETRICS AND GYNÆCOLOGY.

Meeting of March 26, 1891.

Dr. Egbert H. Grandin in the Chair.

A Large Uterine Tumor expelled by the Vaginal Outlet.—Dr. A. H. Goelet narrated the history of the case of a patient, unmarried and forty-two years of age, who had been sent to him in February, 1890, by Dr. M. Smith, of Brooklyn. She had a large interstitial fibroid in the anterior wall of the uterus, as large as an eighth-month gravid uterus. The uterine canal measured seven inches and a half. After several months of treatment by intra-uterine applications there was only a difference of an inch in the waist measurement, and, as this was not very encouraging to the patient, she discontinued treatment. Her menstruation, which previous to the commencement of treatment had been quite painful, was now normal and free from pain. A short time after returning home, and after taking three or four doses of ergot, of fifteen drops each, for the control of a bloody discharge, which had persisted after menstruation, the patient was taken with severe pains, of a paroxysmal character, in the tumor. This condition continued for a week, and subsequently she was seen by Dr. Smith, when it was found that the uterus was evidently attempting to expel the tumor. She then came again under the care of the speaker. The tumor was in due course expelled by the vaginal outlet and the patient had made an uninterrupted recovery. The result was not such as could have been expected and the process hardly one to be desired in the case of large tumors of this kind, but it had at least shown what might be accomplished under unfavorable circumstances by careful management.

A Hair-pin in the Bladder.—Dr. A. F. Currier related the history of a case which had recently come under his care. The patient, a young woman nineteen years of age, was, when seen by him, apparently suffering from severe cystitis. He sounded her bladder, and thought he found evidence of stone. He then opened into the bladder through the vagina, and, on introducing his finger, withdrew a hair-pin. The girl denied all knowledge of how it got there. The bladder walls were very much thickened. The wound had closed kindly, but there was still some cystitis present. The inference was that the hair-pin had been used for the purposes of masturbation.

Forceps Delivery in Shoulder Presentation.—Dr. Currier also detailed the facts in a recent case of his with the view of eliciting an opinion. He had a short time before delivered a young multipara at term. He had found the right elbow and cord presenting. The pains becoming forcible, the sac ruptured and the cord and elbow then protruded into the vagina. It seemed to him that rapid extraction with the forceps offered better chances than version, although the head was still above the brim; he accordingly, after returning the presenting parts by manipulation, applied the forceps and delivered the woman in a few minutes. He wanted to know whether such a course was not better than version.

Dr. Jewett said that, though the method was both allowable and feasible in some cases, the contingencies and exigencies of the case must determine the treatment. Where the patient had been a long time in labor the method would not be possible and the obstetrician would be compelled to bring down a foot.

Supernumerary Mammæ in the Axillæ.—Dr. P. J. McGillicuddy presented a patient, thirty-four years of age, who had recently undergone her second pregnancy, the infant being perfectly formed and healthy and the labor perfectly normal. At about the third month of each pregnancy the axillary glands had filled with milk. Examination showed large brown areolæ of the same shade as that on the breasts, though there were no nipples. The milk, which flowed continuously but most freely when she was nursing the child, exuded through the pores of the skin. It was strongly alkaline and contained colostrum corpuscles.

The Placenta, Funis, and Membranes, and their Influence on Gestation and Parturition.—Dr. Malcolm McLean read a paper on this subject. His object, he said, was to make somewhat more conspicuous some of the simple facts associated with the fœtal envelopes, which were deserving of more attention than they generally received. Even the liquor amnii itself played a not unimportant part. If it was deficient in quantity, especially in primiparæ, the advantage of its distending force was lost. A small bag of waters would render the labor more tedious. Malpositions, though possibly less likely to occur where the quantity of amniotic fluid was small, were certainly more difficult of correction if they did take place. If the liquor amnii was excessive in quantity it might distend the uterus, weaken its contractile energy, and thus prolong the first stage of labor, or it might so distend the uterus as to give too much room and thus contribute to abnormal positions and presentations. In a case of deficient secretion haste in accomplishing delivery should be avoided; on the other hand, the presenting part must not be allowed to press too long upon the soft tissues, and it was a good rule never to allow the child to be arrested at a given point for more than thirty minutes, if good expulsive pains were in force. Supersecretion might call for earlier rupture of the bag to secure proper presentation, prevent prolapse of the funis, and aid the uterus in its expulsive efforts. The funis might be either very long or too short, or it might be so misplaced as to affect the position or presentation of the child. It might also be prolapsed or knotted, and thus greatly endanger the life of the child by interference with the utero-fœtal circulation. If the cord was very long it was more liable to dangerous prolapse, and was especially liable to become entwined about the child's neck. It was also liable to become tied in a knot by the movements of the child in the amniotic fluid. This might occur quite late in pregnancy. It was well known that the funis was twined about the neck in many cases, it might be a single turn, it might be even two or three, or it might be only half a turn, that was running up over one shoulder, around the back of the neck, and off over the opposite shoulder and under the arms. In like manner it might be disposed about the shoulders or arms in various directions, and the position of the child would often be determined by the disposition of the umbilical cord. Thus, in a cephalic presentation, the cord running off from the umbilicus and making a turn about the right shoulder and neck, or the right shoulder or neck according to its length, and thence of course to the placental site, the tendency would be to turn the child upon its long axis from the left to the right of the mother, so as to turn the occiput away from the left planes of the pelvis, and even to rotate it to the right posterior position. It was for this reason that many cases of occipito-posterior position were so persistent in spite of decided efforts to restore the occiput to one of the anterior planes.

A very short cord might greatly interfere with the proper descent of the child, and might even prevent the fœtus from assuming its proper position at the pelvic brim. It might also be a factor in causing accidental hæmorrhage by detaching a small portion of the placenta. The funis was the seat of umbilical hernia at birth sometimes, and therefore it was well to ligate the cord far enough away to insure against tying a loop of intestine with the cord.

The membranes played an important part in the mechanism of labor, and they deserved more respect than they usually received from the average obstetrician. If they were bulging well down into the canal, well filling its diameter, and especially if they protruded fairly ahead of the edges of the dilating cervix, it was pretty sure that they were doing good service in opening the way through the soft parts for the descending child. If, on the other hand, dilatation had been well accomplished, either slowly or rapidly, and powerful pains supervened with unbroken membranes, we might examine carefully during a pain and ascertain the condition of the bag of waters. If the membrane was found thick and resisting, and almost flat across the os uteri, it was probably doing no further good, and was actually obstructing labor.

It was only necessary to mention the fact, so well recognized, that the shape of the bag of waters would often suggest the presentation. The membranes played an important part in protecting the uterus from injury and from invasion of septic material from without. They also served to protect the peritoneal cavity to a considerable extent in case of rupture of the uterus. If it was remembered that the uterine walls were protected thoroughly by these water-proof membranes, that during labor the inside of the amniotic sac, and not the inside of the uterus, was the part with which we came in contact in our operative procedures in obstetrics, we should be able to see why it was that manipulations within the uterus might be made with safety even when aseptic preparations had not been made.

Dr. RALPH WALDO said he had noted the liability of instruments to slip from the head in cases of occipito-posterior position. In cases such as had been described by the author of the paper, in which the cord was making mechanical traction upon the child, why not pass in the hand and slip the cord off the shoulder of the fœtus, so that the mechanical difficulty would cease to be operative? In occipito-posterior positions, if delivery by the forceps must be done, then a little careful manipulation with instruments could turn the position into one of face presentation, and delivery could be effected with as great safety to the patient as if the position was a normal one.

Dr. J. C. EDGAR indorsed the opinion as to the use of the hand in these cases. There were very few instances in which the occiput could not be made to come round by judicious use of the hand. It was necessary, however, to see that there was complete flexion, and that the child's chin was well upon its sternum.

The CHAIRMAN thought that, if the head had engaged and there existed no disproportion, by flexing the head rotation would be insured, and would take place spontaneously as the head advanced. The reason why the posterior position was kept up was the continued extension of the head. If, however, there existed any disproportion, then he should consider it would be difficult to turn the head three quarters of a circle without injuring the fœtus or the maternal parts.

Pessaries; their Use and Abuse.—This was the title of a paper by Dr. GRACE PECKHAM. To discuss the use of the pessary involved a discussion of displacements, more especially retroflexion and anteflexion, the symptoms produced by them, and their importance as pathological conditions. As a result of study and experience, and as a basis for the consideration of the application of pessaries as a remedial measure, the author, without going into any elaboration of detail, made the following statement: First, that anteflexion and retroflexion might exist as conditions which, if not normal, gave rise to no symptoms and demanded no treatment. Such cases, however, were rare. The reason that they occasioned no trouble was the fact that the uterine canal was not narrowed and that there was no prolapsus. Flexions might exist without prolapsus and also without the narrowing of the uterine canal, in which event there was no call for their correction. Second, as a general thing, flexions interfered with the circulation of the uterus. There were those who contended that the blood-supply of the uterus, both arterial and venous, was so abundant and so arranged that it could not be interfered with by any flexion of that organ. The author did not think that the facts bore out this view, as she had seen case after case where all inflammatory conditions had been relieved and the accompanying prolapsus and flexion corrected; the displacements recurred, followed after a time by endometritis and metritis of varying degree. It had also been said, and justly too, that prolapsus, unless complete, disturbed the uterine circulation more than any other condition, and, as had already been said, prolapsus was generally an accompaniment of flexions. It might be said that to this stretching of the blood-vessels had been attributed the pain, which was greater in prolapsus of the first and second degree than when the prolapsus was complete, though the opinion was also held that pressure upon the nerves, both in flexions and in prolapsus, was the occasion of the pain which was experienced. There was no doubt that flexions, both anterior and posterior—which in themselves produced no discomfort—often gave rise to inflammation and prolapsus, with the attendant symptoms of dysmenorrhœa and pelvic pain, with, after a time, the appearance of reflex symptoms. Displacements, therefore, should be corrected to relieve the symptoms to which, in a majority of cases, they gave rise, and also to prevent congestion, inflammation, and prolapsus, which might result from them. It was to this end that numberless pessaries had been invented. The displacements which were amenable to treatment were the backward and forward displacements of the uterus and prolapsus of varying degrees. It was doubtful if lateral displacements could be much benefited by pessaries. They were occasioned by contractures of the broad ligaments, and the pressure brought to bear upon the parts by even a soft pessary was apt to produce an inflammatory condition. Undoubtedly the best results were attained by pessaries in cases of incomplete prolapsus.

In complete prolapsus many patients had been made very comfortable with the inflated ring pessary. For the correction of anteflexion, as the anterior *cul-de-sac* in its close relationship to the bladder was more tender than the posterior, a softer pessary was more often demanded. For this purpose the Gehrung was undoubtedly the best. In some cases the upper bar was found too slender and was apt to wear into the tissues. This had led the author to use the Thomas modification of Albert Smith's retroflexion pessary. It was soft and with the slight spring held the uterus in place. As it was flexible, one could adjust the supporting bar to the flexion as required. This and the hard rubber Gehrung were the ones employed in the correction of anterior displacements. The relief from the pressure on the bladder, from the dysmenorrhœa, from the reflex nervous disturbances, had been so great in many cases that the author could not understand why the utility of such measures should be called into question. The pessary in posterior displacements had been more generally received. A soft-rubber Thomas pessary was the one preferred in these conditions. It was of great use when there was a tendency to tenderness and irritable ovaries. It was valuable since it could be so much more frequently adjusted than the hard-rubber ones. In cases where there was hyperæsthesia of the *cul-de-sac* the soft cushion pessary, recommended by Dr. Sarah E. Post, was found to be of great value, as it was well borne and could be adjusted by the patients themselves. Could pessaries cure displacements was another of the widely discussed questions. It was true that in many cases they were only a means of palliation. It could not be said that complete prolapsus had ever been cured by the use of a pessary; this condition belonged to the lower classes, and the cause which produced it was apt to continue it. With anteflexions the case was different. If the trouble was of short standing, a pessary would relieve it. If there was no tenderness, a pessary was preferable to a tampon, as it stayed in place better and the support was more equable. In retro-displacements, if the trouble was not congenital a pessary would produce a cure, but there was, of course, a tendency to a return, all disease occurring along the lines of weakest resistance. Properly speaking, all supports to the uterus were pessaries, but latterly the distinction had been made between tampons and pessaries. The length of time that a pessary should remain without removal depended greatly on the individual. Six weeks to two months was the longest time that the pessary in the average case should be left in without inspection and cleansing. The best material for cleansing the soft-rubber pessary was borax, a teaspoonful to a quart of water. For a pessary to fit, it must support without stretching the parts, as a large pessary, by pressure and by distending the vagina, would do harm. One must keep in mind a constant picture of the anatomy of the parts, the present condition, and the desired restoration.

Dr. H. J. BOLDT thought that there existed conditions where, if properly managed and watched, the stem pessary might be admissible, but, as a rule, it had better be discarded. Pessaries were for the most part applied too large and the changes they set up required their being replaced by still larger ones. The soft-rubber pessary should, in his opinion, be thrown aside as a filthy instrument. It was impossible to keep it clean. It was quite possible to mold any of the hard instruments to meet the requirements.

Dr. A. H. Goelet, while admitting that in certain conditions the Albert Smith pessary might be employed as a tentative measure, thought that, as a general proposition, pessaries had done more harm than anything else in gynæcological practice. Physicians, as a rule, did not know how to apply them, and both the physicians and the patients looked upon the instrument as a curative agent instead of an auxiliary, and, because it gave some relief, other and more important measures were neglected.

Dr. Waldo said that he only used the soft-rubber pessary to prepare the parts for a hard one. The soft-rubber instrument caused disagreeable secretions, and these in their turn were likely to set up elytritis.

The opinion voiced by those speakers who confined themselves to the question at issue seemed to be that while the pessary in some of its varied forms might, under certain conditions and with the most judicious handling, be productive of direct benefit, it had, at the present time, lost its hold upon the appreciation of gynæcologists.

Book Notices.

L'Asepsie et l'antisepsie à l'Hôpital Bichat, service de chirurgie de M. le Docteur Félix Terrier (1883–1889). Par Marcel Baudouin, ancien interne à l'Hôpital Bichat. Préface et introduction de M. Félix Terrier, professeur agrégé à la Faculté de médacine. Avec 10 figures dans le texte et 4 photogravures hors texte. Paris: E. Lecrosnier et Babé, 1890. Pp. iii–214. (Publication du *Progrès médical.*)

Professor Terrier first describes the management of a hospital surgical service, beginning with the removal of all clothing and dressings, if any have been applied, from the patient; the thorough cleansing, if possible, of the body in a lavatory where a suit of hospital clothing from a sterilizing stove is supplied, the patient's clothing being placed in such a stove for sterilization. The wards are divided into three classes: 1. For non-infected patients. 2. For infected patients. 3. For patients under observation. Besides these wards, there are isolation chambers. Each of these wards is distinct in its operating room, attendants, etc. A description of each of the wards, with engravings and photogravures, gives an excellent idea of the arrangement of the Bichat.

The greater portion of the volume is devoted to the consideration of asepsis and antisepsis in general, and also of the procedures necessary to secure regional antisepsis. Under this latter topic operative measures are only referred to in a general way. The final section of the volume is devoted to a *résumé* of the operations performed each year from 1883 to 1889. In the latter year there were 441 operations, with 37 deaths—a mortality of 8·39 per cent. These tables give the number of successful cases and of failures.

The volume impresses us with the thought that has been given to the details of asepsis, and it is a valuable addition to the statistical literature of the subject.

Principles of Surgery. By N. Senn, M. D., Ph. D., Milwaukee, Wis.; Professor of the Principles of Surgery and Surgical Pathology in the Rush Medical College, Chicago, Ill., etc. Illustrated with 109 wood engravings. Philadelphia and London: F. A. Davis, 1890.

In the preface the author states that it has been his aim to write a book which should serve the purpose of a systematic treatise on the causation, pathology, diagnosis, prognosis, and treatment of the injuries and affections which the surgeon is most frequently called upon to treat. He has desired to keep in view the difference between the cellular processes as observed in regeneration and in inflammation, and to indicate the relationship between the modern science of bacteriology and the ætiology and pathology of surgical affections. On account of the amount of material entering into this volume, a consideration of the pathology and surgical treatment of tumors was reserved for another work.

The first two chapters treat of the regeneration of tissue; inflammation is considered in the two following chapters; a chapter is devoted to the pathogenic bacteria; and the subsequent chapters treat of neurosis, suppuration, suppurative osteomyelitis, septicæmia, pyæmia, erysipelas, tetanus, hydrophobia, surgical tuberculosis, actinomycosis hominis, anthrax, and glanders. From this catalogue an idea of the general character of the work may be obtained, the volume being essentially devoted to surgical pathology.

The author has been an extensive reader, and his familiarity with the most recent work in pathology has enabled him to make a judicious selection of his material.

Special Report on Diseases of the Horse. Prepared under the direction of Dr. D. E. Salmon, Chief of the Bureau of Animal Industry. By Drs. Michener, Law, Harbaugh, Trumbower, Liautard, Holcombe, Huidekoper, and Dickson. Published by authority of the Secretary of Agriculture. Washington: Government Printing Office, 1890.

This volume contains articles on the methods of administering medicines, on diseases of the digestive organs, and on wounds and their treatment, by C. B. Michener, V. S.; on diseases of the urinary organs, on diseases of the generative organs, on diseases of the eye, and on diseases of the skin, by James Law, F. R. C. V. S.; on diseases of the respiratory organs, by W. H. Harbaugh, V. S.; on diseases of the nervous system, and on diseases of the heart and blood-vessels, by M. R. Trumbower, V. S.; on lameness, by A. Liautard, M. D., V. S.; on diseases of the fetlock, ankle, and foot, by A. A. Holcombe, D. V. S.; on general diseases, by Rush Shippen Huidekoper, M. D. Vet.; and on shoeing, by William Dickson, V. S. It has been prepared as one of a series of volumes that are intended to cover the diseases of all varieties of farm animals; and the Chief of the Bureau disarms criticism of his proposed plan by the plea that it is better for the farmer to have at his command the advice of veterinarians eminent in their profession rather than follow traditional or empirical methods of treatment.

The volume contains forty-four excellent plates that will undoubtedly prove of great value to the reader. The different articles are well written, and the inequality that might be expected where a number of writers form the material for a volume is less noticeable than usual. We are certain that the work will be appreciated, not only by the farmer and veterinarian, but also by those members of our profession who, in their country practice, are called upon to give information as to the best methods of treatment of animal diseases.

A Manual of Weights and Measures. Including Principles of Metrology; the Weights and Measures now in Use; Weight and Volume and their Reciprocal Relations; Weighing and Measuring; Balances (Scales) and Weights; Measures of Capacity; Specific Weight and Specific Volume, etc. With Rules and Tables. By Oscar Oldberg, Pharm. D., etc. Third Edition, revised. Chicago: W. T. Keener, 1890. Pp. vi–250.

Three editions in the space of five years show that this little work supplies a want felt by the medical profession in this country. No doubt the adoption of the metric system in the Pharmacopœia will render recourse to a book of this kind more frequently necessary.

BOOKS AND PAMPHLETS RECEIVED.

Practical Treatise on Electricity in Gynæcology. By Egbert H. Grandin, M. D., Chairman of the Section in Obstetrics and Gynæcology, New York Academy of Medicine, etc., and Josephus H. Gunning, M. D., Instructor in Electro-therapeutics, New York Post-graduate Medical School and Hospital, etc. Illustrated. New York: William Wood & Co., 1891. Pp. viii–171.

Text-book of Bacteriology. By Carl Fraenkel, M. D., Professor of Hygiene, University of Königsberg. Third edition. Translated and edited by J. H. Linsley, M. D., Professor of Pathology and Bacterielogy, Medical Department of the University of Vermont, etc. New York: William Wood & Co., 1891. Pp. iv–376.

Text-book of Medical Jurisprudence and Toxicology. By John J. Reese, M. D., Professor of Medical Jurisprudence and Toxicology in the University of Pennsylvania, etc. Third Edition. Revised and enlarged. Philadelphia: P. Blakiston, Son, & Co., 1891. Pp. xvi–9 to 666.

The Modern Antipyretics: their Action in Health and Disease. By Isaac Ott, M. D., Ex-fellow in Biology, Johns Hopkins University, etc. Easton, Pa.: E. D. Vogel, 1891. Pp. 7 to 52.

Studies of Old Case Books. By Sir James Paget, Bart. London: Longmans, Green, & Co., 1891. Pp. ix–168.

Examinations by the State Board of Health of the Water Supplies and Inland Waters of Massachusetts, 1881–1890. Boston: Wright & Potter Printing Co., State Printers, 1890. Pp. xviii–857.

Chorea in the Adult as seen among the Insane. By Theodore Diller, M. D. [Reprinted from the *American Journal of the Medical Sciences.*]

Fallacies in Conclusions as to the Efficacy of Therapeutic Measures for the Relief of Epilepsy. By Theodore Diller, M. D. [Reprinted from the *University Medical Magazine.*]

Migraine and Functional Headaches from Eye-strain. By Peter A. Callan, M. D. [Reprinted from the *Journal of the American Medical Association.*]

Intraperitoneal Myofibroma of the Rectum weighing Twelve Pounds, successfully removed by Laparotomy. By N. Senn, M. D., Ph. D., of Milwaukee, Wis. [Reprinted from the *Weekly Medical Review.*]

Some Observations on Kakké, the National Disease of Japan. By Albert S. Ashmead, M. D. [Reprinted from the *University Medical Magazine.*]

Ethics as applied to Criminology. By Dr. Arthur Macdonald, Worcester, Mass. [Reprinted from the *Journal of Mental Science.*]

Hemiatrophia Linguæ of Extracranial Origin. By H. S. Birkett, M. D. [Reprinted from the *Montreal Medical Journal.*]

Galvanic and Faradaic Electricity, and their Uses in Gynæcology. By Louis F. Criado, M. D. [Reprinted from the *Brooklyn Medical Journal.*]

Proceedings of the Thirteenth Convention of the Empire State Association of Deaf Mutes, held in Buffalo, August 19–20, 1890.

Thirtieth Annual Report of the Cincinnati Hospital to the Mayor of Cincinnati, for the Fiscal Year ending December 31, 1890.

Un caso di scarlattina anomala. Nota clinica del Dott. Umberto Dieci. [Estratto dalla *Rassegna di scienze mediche.*]

Consideraciones Medico-legales acerca de la Muerte por la Electricidad Industrial. Por Eduardo F. Pla. Habana.

An Analysis of the Statistics of Forty-one Thousand Five Hundred Cases of Epidemic Influenza. By Benjamin Lee, A. M., M. D., etc. [Reprinted from the *Journal of the American Medical Association.*]

The Proclivity of Women to Cancerous Diseases and to Certain Benign Tumors (being the Substance of a Lecture delivered at the Cancer Hospital on February 6, 1891), with Appendix on Heredity as a Cause of Cancer. By Herbert Snow, M. D. (Lond.), etc., Surgeon to the Hospital. London: J. & A. Churchill, 1891. Pp. 58.

Thirteenth Annual Report of the State Board of Health of the State of Connecticut for the Year ending November 30, 1890, with the Registration Report for 1889, relating to Births, Marriages, Deaths, and Divorces.

Nephrorrhaphy for Floating Kidney. By John S. Miller, M. D., of Philadelphia. [Reprinted from the *Transactions of the Philadelphia County Medical Society.*]

Materia Medica and Therapeutics, with Especial Reference to the Clinical Application of Drugs. By John V. Shoemaker, A. M., M. D., Professor of Materia Medica, Pharmacology, Therapeutics, and Clinical Medicine, and Clinical Professor of Diseases of the Skin in the Medico-chirurgical College of Philadelphia, etc. Vol. II of a Treatise on Materia Medica, Pharmacology, and Therapeutics. Being an Independent Volume upon Drugs. Philadelphia and London: F. A. Davis, 1891. Pp. xxi–355 to 1004. [Price, $3.50.]

Medical Symbolism in connection with Historical Studies in the Arts of Healing and Hygiene. Illustrated. By Thomas S. Sozinskey, M. D., Ph. D., etc. Philadelphia and London: F. A. Davis, 1891. Pp. xii–171. [Price, $1.] [No. 9 in the Physicians' and Students' Ready Reference Series.]

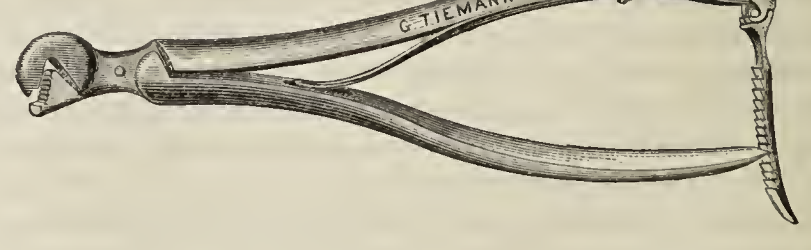
Fever: its Pathology and Treatment by Antipyretics. Being an Essay which was awarded the Boylston Prize of Harvard University, July, 1890. By Hobart Amory Hare, M. D., B. Sc., Clinical Professor of Diseases of Children and Demonstrator of Therapeutics in the University of Pennsylvania, etc. Philadelphia and London: F. A. Davis, 1891. Pp. 166. [Price $1.25.] [No. 10 in the Physicians' and Students' Ready Reference Series.]

New Inventions, etc.

A NEW NEEDLE FORCEPS.

By James P. Warbasse, M. D.,
BROOKLYN.

Of the many styles of needle forceps, few are adapted to all of the varieties of needles, and to these few inadaptability to the Hagedorn needle has offered the greatest obstacle. The best have failed at the most trying moment. The objectionable feature to many is that the needle can not be held with sufficient firmness to be thrust through dense and resisting tissues, and it escapes from the jaws of the forceps. This is more noticeable when the instrument becomes slightly worn. The forceps shown in the cut obviates this objection. It is adapted to every needle, and especially to the Hagedorn, which can not possibly escape from its grasp. The jaw is a modification of the invention of Dr. Fowler. On the lower jaw is a step, which is received into a corresponding notch on the opposite jaw. When, perchance, the needle slips, it is caught by the offset and further progress stopped. This little device renders the hold absolutely secure. The forceps thus presents two compartments—an upper for using a needle in resisting tissues, and a lower compartment for holding a needle for finer work. A curved needle of



any variety may be held either with its plane perpendicular or parallel to the long axis of the forceps.

The French lock has been adopted as the best. The catch is after the style of that of the Hagedorn forceps, as being the most convenient to manipulate. This forceps has been given a thorough trial, and the result has been most gratifying. It is made by George Tiemann & Co.

Miscellany.

The Chair of Surgery in Rush Medical College.—The *Journal of the American Medical Association* for April 25th contains the following introductory address by Dr. N. Senn, one of the professors of surgery in the college:

" Within the short space of four years ruthless death has twice vacated the chair of surgery in this college. On both of these sad occasions the faculty, students, and alumni felt that an irreparable loss had been sustained. To fill the chair of surgery made vacant by the death of men who have distinguished themselves in their profession by honest scientific work, and have endeared themselves to their colleagues and students as exemplary and masterly teachers, is by no means an easy task, hence the anxious inquiries from all sides and everywhere: Who shall be the successor? Who shall continue the work left unfinished? Rush Medical College has always been justly proud of its chair of surgery. Its founder was a surgeon of world-wide repute, and there can be no doubt that from its very beginning the men who have occupied this chair have been the great magnet which has attracted an increasing number of students from year to year. I am not saying too much if I make the claim that the chair of surgery in this school, with the immense clinics attached to it, stand to-day, in the estimation of the profession and the people, second to none in this country.

" The faculty of this college has intrusted me with the work commenced by the immortal Brainard, the work so faithfully and ably conducted by the genial and scholarly Gunn, the work brought up to the present immense proportions and importance through the heroic labors of Parkes, whose untimely death is now the cause of universal sorrow. To be chosen as successor of such men should satisfy the goal of ambition of any man. To be the fourth in a genealogy of a group of such surgeons in the oldest and most famous institution for medical education in the great Northwest is a mark of distinction which I fully appreciate, and which I shall make a faithful endeavor to merit by earnest devotion to the duties imposed, and by contributing my humble share toward making this great city what it surely will be in less than twenty-five years—the most important medical center in the United States.

" Brainard, the founder of this institution and the first occupant of the chair of surgery, was a great surgeon, a gifted teacher, and an original investigator. His giant intellect was not content in acquiring, practicing, and teaching what was known at his time, but sought new fields for exploration, and the knowledge thus gained was freely infused into his students. Brainard's work in the field of experimental surgery brought him an international fame, and his name will be quoted as long as books on surgery will be printed. His work has not only left numerous permanent impressions in surgical literature, but it created a stimulus which took possession of his students and the progressive surgeons throughout the civilized world, leading them away from the old well-beaten paths into new, unexplored territories awaiting the advance column of original explorers. It is difficult to estimate the importance and magnitude of his work in this direction, but hundreds of his students scattered all over this country still remain living witnesses of his zeal, industry, and ability as a surgeon, teacher, and scientist. They are to be envied for having received their first surgical knowledge from one of the greatest, and certainly from the most original surgeon that America has yet produced.

" Professor Gunn assumed a responsible position when he succeeded Brainard. That the faculty acted wisely in securing his services has been abundantly shown by his marvelous success as a teacher and the ever-increasing prosperity of the college under his watchful eye and judicious guidance. Gunn loved this institution dearly and jealously watched its interests. He was more than a friend of every one of its graduates. He was not only familiar with the current surgical literature, but also added his share of original scientific work. His love for original research seemed to increase as he grew older. His contributions to our knowledge of the mechanism of dislocations were the outcome of patient experimental work and philosophical reasoning, and mark a decided advance in this important department of surgery. His last paper on this subject is a masterly product and should be in the hands of every student, as it is a genuine *multum in parvo*, containing all essential facts pertaining to this difficult chapter in surgery in a nutshell. Although the faculty, the students, and every graduate felt keenly the great loss sustained by the death of Professor Gunn, the action of the faculty was plain in the selection of his successor. Professor Gunn made ample provision to meet such an emergency during the whole time he was connected with the college. He selected and trained his own successor. The late Professor Parkes was well aware of this fact and made the best of his excellent opportunities. For fifteen years he taught anatomy with an enthusiasm and ability unsurpassed in this or any other country. Under his tuition thousands of students learned to regard the study of anatomy as a pleasant and profitable pastime instead of an uninteresting drudgery, as is so often the case when taught by one less skilled and conversant with his subject; and left the college perfectly familiar with the essential basis of a thorough knowledge of surgery. During all this time Parkes was the right hand of his teacher of surgery, master and student assisting and stimulating each other in their respective work. How well he had prepared himself for his life-work is shown by his short but brilliant career as professor of surgery. His accurate knowledge of anatomy, combined with his familiarity with modern surgery, made him a brilliant and successful operator. His skill as a surgeon was soon recognized and was eagerly sought for far and near. His success as a surgeon has made this clinic what it is to-day—one of the largest and most profitable on the continent. As a teacher few equaled, none surpassed him. Like his predecessors, Parkes was not only a distinguished surgeon and great teacher, but also an enthusiastic, faithful worker in the field of original research. His valuable experimental investigations on the surgical treatment of penetrating gunshot wounds of the abdomen have laid the foundation for the rational treatment of these injuries for all time to come. His experimental and clinical contributions in this department of surgery have erected a monument to his memory more enduring than marble and more precious than bronze.

" His untimely death is surrounded by halos of peculiarly sad and distressing circumstances. The cold hand of death touched him in the prime of life. The final message reached him at a time when he was just beginning to reap a well-earned abundant harvest, and when in full view of a professional career unparalleled in usefulness and prosperity. His pen dropped from his busy hand after he had nearly completed what promised to be a most interesting and valuable work on abdominal surgery. His work as a teacher came to a sudden end near the close of the session and just before the commencement exercises at which one of the largest and best classes left the portals of Rush Medical College in deep mourning over the loss of their favorite and most esteemed teacher. His restless soul departed from this world in the absence of his family, and the last moments of his life were not cheered by words of love and parting kisses from those nearest and dearest to him.

" The life of Professor Parkes furnishes a striking illustration of what can be accomplished in a little more than half a life-time by well-directed, hard study; close application to professional duties and unremitting work in search of new facts. In appearing before you as his successor, I am free to confess that it is with a keen appreciation of my many shortcomings. In resuming the work as a teacher of surgery in this institution, I am encouraged by the prospects that I shall, in the near future, be joined in my work by an associate, a surgeon of more than national reputation. If the combined work of both of us shall accomplish for the college and students what was done by Brainard, Gunn, and Parkes, my ambition and expectation will have been realized. I have left a lucrative practice, a pleasant home, a large circle of professional and social relations, a prospering, wide-awake State, and a beautiful city, and have come here to devote the balance of my life to, the interests and welfare of this college and its students. I am fully conscious of the fact that I am coming at a time when the methods of teaching are undergoing a radical change. In the future, recitations will largely take the place of didactic lectures. Text-books will be written with this special end in view. This comparatively new method of teaching surgery will be made a prominent feature during the next and all subsequent sessions. This new departure will necessarily change somewhat the plan and scope of clinical teaching. It is my intention to carefully arrange and classify the available clinical material in my department which will enable me to combine didactic with clinical instruction. This change will result in a reduction of the number of cases brought before the class, but will prevent unnecessary repetition, and thus save more time for the study and examination of pathological lesions, which will be a sufficient inducement for the students to attend every clinic, take full notes of what they see and hear, and to remain from beginning to end. May God grant that the work intrusted to me and my absent colleague may be worthy of our predecessors, and equally efficient in relieving suffering humanity, in advancing the interests and increasing the sphere of usefulness of this college, and finally, in giving to its students a thorough knowledge of the science and art of surgery."

Mortality in Cities in the United States.—The following table represents the mortality in the cities named, as reported to Dr. John B. Hamilton, Surgeon-General of the Marine-Hospital Service, and published in the Abstract of Sanitary Reports for May 1st:

CITIES.	Week ending—	Population, U. S. Census of 1890.	Total deaths from all causes.	DEATHS FROM—										
				Phthisis pulmonalis.	Yellow fever.	Small-pox.	Varioloid.	Varicella.	Typhus fever.	Enteric fever.	Scarlet fever.	Diphtheria.	Measles.	Whooping-cough.
Philadelphia, Pa....	April 18.	1,046,964	474	....	..	1	..		..	22	5	10	..	....
Brooklyn, N. Y......	April 18.	806,343	697	57	..	..	..	..	..	..	15	17	4	3
Brooklyn, N. Y......	April 25.	806,343	577	46	..	..	..	..	..	4	12	16	9	5
Boston, Mass........	April 25.	448,477	188	28	..	..	..	..	..	2	4	4	..	3
Baltimore, Md.*.....	April 25.	434,439	206	26	..	..	..	..	..	1	2	1	..	1
San Francisco, Cal...	April 18.	298,997	128	21	..	..	..	..	..	..	..	..	..	....
Cincinnati, Ohio †...	April 24.	296,908	143	16	..	..	..	..	..	5	1	..	..	....
Cleveland, Ohio.....	April 18.	261,353	170	14	..	..	..	..	..	4	1	4	..	2
Buffalo, N. Y........	April 14.	255,664	185	17	..	..	..	..	..	1	..	2	..	...
Buffalo, N. Y........	April 21.	255,664	197	15	..	..	..	..	..	2	1	2	1	1
New Orleans, La.....	April 11.	242,039	110	15	..	..	..	..	..	..	..	1	..	....
New Orleans, La.....	April 18.	242,039	119	22	..	..	..	..	..	..	1	4	2	....
Detroit, Mich........	April 25.	205,876	80	6	..	..	..	..	..	..	1	2	2	....
Minneapolis, Minn...	April 25.	164,738	44	....	..	..	..	..	..	..	..	2	..	....
Louisville, Ky.......	April 25.	161,129	73	5	..	..	..	..	..	2	..	3	1	....
Rochester, N. Y......	April 25.	133,896	47	....	..	..	..	..	..	2	..	2	..	....
Providence, R. I.....	April 25.	132,146	48	....	..	..	..	..	..	1	1	1	..	....
Denver, Col..........	April 24.	106,713	58	....	..	..	..	..	..	..	1	4	..	...
Indianapolis, Ind....	April 17.	105,436	....	2	..	..	..	..	..	1	..	1	..	....
Indianapolis, Ind....	April 27.	105,436	66	7	..	..	..	..	..	..	..	2	1	....
Toledo, Ohio.........	April 24.	81,434	29	3	..	..	..	..	..	..	..	1	..	....
Richmond, Va.......	April 25.	81,388	32	4	..	..	..	..	..	..	..	..	..	....
Nashville, Tenn.....	April 25.	76,168	34	....	..	..	..	..	..	1	..	..	1	....
Portland, Me.........	April 25.	36,425	11	....	..	..	..	..	..	..	..	1	..	....
Binghamton, N. Y...	April 25.	35,005	11	3	..	..	..	..	..	2	..	..	..	....
Yonkers, N. Y.......	April 11.	32,033	24	3	..	..	..	..	..	..	..	..	..	....
Yonkers, N. Y.... ..	April 18.	32,033	18	2	..	..	..	..	..	..	..	..	..	....
Yonkers, N. Y.......	April 25.	32,033	21	1	..	..	..	..	..	..	..	..	..	....
Mobile, Ala...... ...	April 25.	31,076	9	1	..	..	..	..	..	..	..	..	..	....
Galveston, Texas....	April 3.	29,084	13	....	..	..	..	..	..	..	..	1	..	....
Galveston, Texas....	April 10.	29,084	8	....	..	..	..	..	..	..	..	..	..	....
Galveston, Texas....	April 17.	29,084	10	1	..	..	..	..	..	..	1	..	..	....
Auburn, N. Y........	April 25.	25,858	8	3	..	..	..	..	..	..	..	1	..	....
Newton, Mass..	Mar. 28.	24,379	11	2	..	..	..	..	..	1	..	..	.	....
Newton, Mass.......	April 4.	24,379	8	1	..	..	..	..	..	..	..	..	..	....
Newton, Mass.......	April 11.	24,379	6	1	..	..	..	..	..	..	..	..	..	....
Newport, R. I........	April 23.	19,457	11	2	..	..	..	..	..	..	..	..	..	....
San Diego, Cal.......	April 18.	16,159	1	....	..	..	..	..	..	..	..	..	..	....
Shreveport, La.......	April 18.	11,979	3	....	..	..	..	..	..	..	..	..	..	....
Pensacola, Fla.......	April 18.	11,750	3	....	..	..	..	..	..	..	..	..	..	....

* Fifteen deaths from influenza. † Five deaths from influenza.

The New York Academy of Medicine.—At the next meeting of the Section in General Surgery, on Monday evening, the 11th inst., Dr. Dudley P. Allen, of Cleveland, Ohio, will, by invitation, read a paper on Drainage in Abdominal Surgery.

At the next meeting of the Section in Pædiatrics, on Thursday evening, the 14th inst., papers are announced to be read as follows: Polyuria in Children, by Dr. G. W. Rachel; Two Cases of Tachycardia in Young Girls (a demonstration), by Dr. Henry Koplik; Asthenopia in Children, by Dr. J. A. Andrews; Naso-pharyngeal Catarrh a Causative Factor in Gastric Catarrh, by Dr. Louis Fischer; and Dentition in its Relation to Various Pathological Conditions, by Dr. A. Brothers.

At the next meeting of the Section in Orthopædic Surgery, on Friday evening, the 15th inst., Dr. Newton M. Shaffer will read a paper entitled When shall we discontinue Mechanical Treatment in Hip-joint Disease?

"Traumatic Neuroses."—"This is a convenient term, but, like other terms which are convenient, it is apt to include far too much. In this country the most important traumatic neurosis which is met with is no doubt the so-called 'railway spine,' and it may be that cases placed in this category are as varied as those which Hoffmann (*Berlin. klin. Woch.*, No. 29) found among a series of twenty-four cases of 'traumatic neurosis.' Of those twenty-four, ten were found to have undoubted signs of organic mischief; in six the symptoms were partly the result of exaggeration and partly of simulation; in eight there was malingering, proved to be so after careful observation for several weeks. The author protests against the use of the term for such varied conditions, pointing out that in a so-called traumatic neurosis we may have to deal with organic nerve injury, with hysteria, the result of injury, with shock to the cerebro-spinal system, with neurasthenia, or even with a true psychosis."—*Lancet.*

To Contributors and Correspondents.—*The attention of all who purpose favoring us with communications is respectfully called to the following:*

Authors of articles intended for publication under the head of "original contributions" are respectfully informed that, in accepting such articles, we always do so with the understanding that the following conditions are to be observed: (1) when a manuscript is sent to this journal, a similar manuscript or any abstract thereof must not be or have been sent to any other periodical, unless we are specially notified of the fact at the time the article is sent to us; (2) accepted articles are subject to the customary rules of editorial revision, and will be published as promptly as our other engagements will admit of—we can not engage to publish an article in any specified issue; (3) any conditions which an author wishes complied with must be distinctly stated in a communication accompanying the manuscript, and no new conditions can be considered after the manuscript has been put into the type-setters' hands. We are often constrained to decline articles which, although they may be creditable to their authors, are not suitable for publication in this journal, either because they are too long, or are loaded with tabular matter or prolix histories of cases, or deal with subjects of little interest to the medical profession at large. We can not enter into any correspondence concerning our reasons for declining an article.

All letters, whether intended for publication or not, must contain the writer's name and address, not necessarily for publication. No attention will be paid to anonymous communications. Hereafter, correspondents asking for information that we are capable of giving, and that can properly be given in this journal, will be answered by number, a private communication being previously sent to each correspondent informing him under what number the answer to his note is to be looked for. All communications not intended for publication under the author's name are treated as strictly confidential. We can not give advice to laymen as to particular cases or recommend individual practitioners.

Secretaries of medical societies will confer a favor by keeping us informed of the dates of their societies' regular meetings. Brief notifications of matters that are expected to come up at particular meetings will be inserted when they are received in time.

Newspapers and other publications containing matter which the person sending them desires to bring to our notice should be marked. Members of the profession who send us information of matters of interest to our readers will be considered as doing them and us a favor, and, if the space at our command admits of it, we shall take pleasure in inserting the substance of such communications.

All communications intended for the editor should be addressed to him in care of the publishers.

All communications relating to the business of the journal should be addressed to the publishers.

Original Communications.

REMARKS ON THE REIMPLANTATION OF BONE IN TREPHINING,

WITH AN ILLUSTRATIVE CASE OF OPERATION FOR TRAUMATIC EPILEPSY.*

By ROBERT F. WEIR, M. D.,
SURGEON TO THE NEW YORK HOSPITAL, ETC.

THE patient shown this evening is a man, aged fifty-three, who, when seventeen years old, sustained a depressed fracture in the right frontal region, low down, from the explosion of a musket. Epileptic seizures appeared shortly after his convalescence, with increasing frequency in late years, until, prior to the first operation I performed on him in 1885, he had them from two to five times a day, with considerable maniacal excitement and without any special group of muscular twitchings to signalize the attack. At the site of the old injury, just above the frontal sinus, was a marked bony depression. A disc of an inch trephine, centering in this spot, was removed, and the internal table found angularly driven inward, but the spur was rounded at its summit and non-adherent to the dura mater. Nothing abnormal was recognized by a probe passed between the dura and skull, in the immediate vicinity of the trephine opening, and, as this was done anterior to my ventures into the region of modern brain surgery, the wound was closed, in the hope that relief had been afforded by the removal of the depressed bone. A temporary improvement followed, which, it can be stated, is to be expected in many epileptic cases, no matter what operative procedure is employed, even if on distant portions of the body. He was lost sight of until February, 1887, when he returned with a history of relapse of his fits, with reappearance worse than ever of his maniacal excitement and irregular desires to disrobe himself in the street, associated with great pain and a burning sensation in the region of his forehead, etc. Epileptic seizures occurred three to four times a month. In consultation with Dr. Seguin, it was determined that the patient was entitled to an exploratory examination of the brain itself, and hence a large rectangular flap was carried upward from the eyebrow so as to expose the frontal bone on its right side from the median line to the outer angle and up to the hairy scalp. Three one-inch discs were removed by the trephine, and the bone openings coalesced and enlarged by a double gouge forceps until it reached a size of three by two inches. In this enlargement the right frontal sinus, opened into slightly at the first operation, was again more largely invaded, and found to contain nearly a teaspoonful of pus, but without any necrosed bone. As this probably caused the pain and burning felt in this region, particular means were taken to prevent a recurrence, and hence a drill was carried from the bottom of the sinus into the nostril, a drainage-tube placed in this new bony track, and the sinus then packed with iodoform gauze to protect the cerebral tissues, which were after this opened, from infection. A dural flap was then lifted, but the frontal lobe appeared normal. Only one strong adhesion was encountered between it and the pia; this was divided. The median fissure was separated by spoon-handles, so that it could be inspected to a depth of more than an inch. The base of the lobe was similarly exposed by lifting it from the orbital plate. No reason for cutting into the brain appeared by inspection or by palpation. The dural flap was therefore closed by sutures. The three bone discs, preserved meanwhile in a warm antiseptic cloth, were replaced, the interstices were filled up with the bone chips produced by the gouge forceps, and the wound was closed.

This was my first trial in replacing so large a piece of bone as this, and in its use I believed myself to be original, but learned afterward that Macewen had resorted to the same procedure a year previously. Its novelty was such that one of my colleagues chaffingly suggested to me that I would probably have another operation on my patient in the course of a few weeks for the removal of the necrosed bone. But they remained firm, and it is now well known that necrosis of such replaced pieces of the skull, while possible, is yet a very exceptional result. To secure proper solidity, the pieces put back must, however, touch the margins of the cranial opening, and the little pieces filling up the gaps must also touch this or each other.

The man promptly recovered from the operation and did not have a recurrence of his epilepsy for the two months he was under observation.

He recently entered the New York Hospital for a burn of the sole of his foot produced by the too long contact of a hot bottle used to help him react from an epileptic seizure. He states to me that he is much improved as to his fits, having them only once or twice a month and at night-time mainly, that his mind works clearly, and that he is able to keep at his business steadily.

I have detailed his case but imperfectly, because its traumatic character robs it of most of the interest which attaches to epilepsy; but though of this variety, yet it can be said of this form, as well as of the idiopathic focal epilepsies submitted to operative interference, that the amount of improvement is fully up to the average. A cure by surgical means is met with but rarely, but generally an improvement in the two forms just mentioned can be expected, and so much, moreover, as to fully justify recourse to an operative means of treatment. So far, in the few instances in which I have operated, my own experience is as just stated, and it confirms that of Horsley and others.

But my main aim in presenting this patient to notice is to speak briefly concerning the remoter history of such bone implantations. In the present case the bones, nearly four years after the operation, are firm, and only on close inspection can there be seen a slight pulsation, which the patient informs me only recently appeared. This is a point of some importance to which attention will be given in a few moments. The whole bony surface is somewhat sunken, or, rather, it has not retained the natural curve of the skull. This flattening is also met with in the boneless openings left after trephining or injuries. There are no irregularities to be felt such as one would expect from the small pieces of bone used in addition to the bone discs. This depression of the bone, as well as the irregularities of the bone chips, has always excited my apprehension lest they should beget irritating influences on the dura or brain beneath, but till now nothing injurious from their retention has come to my knowledge. Their asperities, doubtless, are soon smoothed off, and probably many of the pieces are totally absorbed.

The slight yielding noticed in this patient's bone scar, shown by the pulsation just alluded to, illustrates in all probability such an absorption. In support of this explanation, I beg to cite the following case: In November, 1887, I removed an infiltrating sarcoma situated quite deep in the brain, and closed the operation by replacing the bone discs and chips, with prompt and satisfactory union of the wound. The patient's condition improved decidedly after the operation, but a rapid recurrence was predicted with only a limited prolongation of life. He, however, lived for nearly three years after the operation. The details of this case—which, with one or two others, amply meets the objections raised against cerebral operations for malignant growths (and such in the brain are most common)—have been given already in the *American Journal of the Medical Sciences* for July, August, and September, 1888.* The patient's subsequent progress is interesting, but particularly at this moment, in connection with the action of the solidly united reimplanted bone pieces. Some eight months prior to his decease blindness in both eyes developed, with slight elevation and pulsation at the lower part of the original skull opening. This increased until the whole of the reimplanted bone, which had existed as a firm mass for over two years, gradually disappeared, and a hernia of brain substance covered by skin took its place. This, of course, meant an increase of the neoplasm and augmentation of cranial pressure; but the early symptoms of aphasia, right-arm paralysis, and epileptoid convulsion, which had been relieved by the operation in 1887, did not recur until near his death, which took place in May, 1890.

---

* Read before the Section in Surgery of the New York Academy of Medicine, January 12, 1891.

I was pleased to learn that this yielding could take place, for reflection had led me to believe that in cases of neoplasms, or other lesions in which intracranial pressure was likely to be again developed, the patient should not be deprived of the safety valve of a permanent cranial opening with a distensible skin covering. The importance of such an opening I have frequently urged since first presenting its value to the profession in a case in 1886, where, failing to find a tumor, the mere opening of the skull with its subsequent subcutaneous hernia, without any replacement of bone, relieved the patient for several months of the severe symptoms which brought about the imperfect operation.† This has now come to be an accepted procedure, not only in cases where a tumor is not found at the time of operation, but also as a means of relief wherever pressing symptoms of intracranial pressure are present.‡

The Norwegian Hospital, Brooklyn.—This institution has recently been enlarged by the erection of a new structure at the corner of Fourth Avenue and Forty-sixth Street, South Brooklyn. From thirty to thirty-five patients can be accommodated.

KOCHISM IN GENITO-URINARY DISEASE.*

By J. E. Kelly, F. R. C. S., M. K. Q. C. P.,
PROFESSOR OF OPERATIVE SURGERY AND PRACTITIONER'S ANATOMY, POST-GRADUATE SCHOOL;
VISITING SURGEON TO CHARITY AND GOUVERNEUR HOSPITALS;
CONSULTING SURGEON TO THE FRENCH HOSPITAL, ETC.

Responding, with great pleasure, to the request of your worthy chairman and my good friend, Professor Taylor, I have the honor to present to this Section of the Academy the observations and notes which I accumulated in Berlin of forty-six patients in whom genito-urinary phenomena manifested themselves among more than six hundred cases of various diseases which were treated according to the method of Professor Koch.

I must say, in justice to Professor Koch, that it is not from this department of medicine that I should have selected my examples were I solicitous to present his method from the most favorable standpoint. I can not describe to this Section of the Academy such phenomenal results as the restoration of sensation and locomotion in a paraplegic child after seven injections of tuberculin, nor can I speak of the increase of the weight of another patient by twenty pounds in three weeks with the absolute disappearance of all signs and symptoms of pre-existing pulmonary tuberculosis; neither, consistently, can I tell you the details of a man afflicted with a "hopeless" disease in an anatomical region adjacent to the arena of your own specialism, a patient with fistulæ in ano, burrowing and infiltrating in every direction, who was injected, as a forlorn hope, with marvelous results, even to the restoration of the powers of the sphincters; still, many of the cases which I shall cite are of great interest, not alone from the therapeutic, but from the physiological and clinical standpoints.

In dealing with a novel topic it is permissible to attempt to establish a parallel between it and some familiar subject, in order to introduce the more easily the unknown into the realm of the known, and this I shall attempt in my introductory remarks.

We recognize that the action of a therapeutic agent is the result of its chemical or vito-chemical affinity to the elements of the system. An example of therapeutic action especially familiar to the members of this Section of the Academy is seen in the manner in which iodine and its salts combine in the first instance with the albuminous tissues, modify their composition, and subsequently are eliminated through the various avenues of depuration. On the system generally, iodine has the effects of raising the temperature, increasing the cardiac and pulmonary action, and promoting metabolism or tissue change. Its effects on the various functions and organs are worthy of our consideration. Owing to the manifestation of its congestive or inflammatory powers during elimination by the different emunctories, the skin presents characteristic eruptions, sometimes exanthematous, but often passing into the graver and more deeply seated forms of cutaneous disease; the nose, pharynx, and larynx are congested and inflamed, sometimes even to impending suffocation, while dyspnœa, cough, thoracic pains, and even hæmoptysis indicate pulmonary implication; the intestinal tract manifests its sympathy by salivation, nausea, vomiting, abdominal pains, and diarrhœa; the quantity of urine is modified, as well as its ingredients; the nervous system is variously affected, even to delirium, spasms, paralysis, or fatal coma.

---

* A Contribution to the Diagnosis and Surgical Treatment of Tumors of the Cerebrum. By Dr. Weir and Dr. Seguin.

† In the paper quoted already (1888) I ventured to say that this relief of cerebral pressure could be properly applied in other severer conditions, such as, for instance, progressing apoplectic hæmorrhage, etc.

‡ I have myself since then once in an apoplexy made such an opening, and it is now a rule in my hospital service that patients with obscure intracranial pressure should have a "relief opening" in the skull, which can also be used for exploratory purposes.

* Read before the Section in Genito-urinary Surgery of the New York Academy of Medicine, March 12, 1891.

Here is a summary which would serve, in a general way, as a description of the "reaction" in Kochism, and from it we can glean a general idea of the method of action of tuberculin. A grand and grave modification takes place in the nutrient processes of the patient, accompanied in tubercular patients particularly by remarkable exacerbation in the general phenomena of pulse, respiration, and temperature. At the same time there are various local manifestations, but for our purpose it is sufficient again to direct attention to their similarity to those which are sometimes seen after the exhibition of toxic doses of iodine. It is impossible to distinguish between the grave disturbances due to the increase of the metabolic processes, to the elimination of the products of these processes, and to the direct influence of this agent on the nervous centers presiding over the disturbed vital functions. The question must be decided by physiology and pathological chemistry. Some of the gentlemen who have proposed substitutes for Professor Koch's tuberculin have laid special weight upon the fact that the phenomena following the administration of their remedies were similar to or, if a little latitude is granted them, identical with those seen in what is termed the "reaction" in Kochism, evidently overlooking the sequence of similar phenomena to the exhibition of many agents which admit of elimination. Another point of similarity between iodism and Kochism is the absence of any definite proportion between the amount of the dose and the symptoms. In both instances we see striking disparity, which is best indicated in Kochism by the observation of the results of two accidental doses administered in the course of treatment; one patient, an adult, when the amount of the injection reached, by intentional progression, six milligrammes, owing to a miscalculation, received sixty milligrammes with hardly any departure from the reaction which should have been expected had the proposed dose been administered; and in another case, that of a child, to whom one tenth of a milligramme was administered instead of one milligramme, the most violent and alarming phenomena presented themselves. By those enigmatic results we are reminded of many instances of idiosyncrasy in the exhibition of iodine and of the paradoxical subsidence of some of the disagreeable phenomena following the administration of small doses of iodide of potassium on increasing the quantity to ten or thirty grains. It is not necessary just now to consider the form in which tuberculin is excreted, but it is fair to assume from analogy that the phenomena of reaction are related to some extent to the process of elimination, especially as we usually observe the subsidence of the reaction after a period which would appear adequate for the elimination of a non-autogenetic poison, while we sometimes see a protracted condition of toxic disturbance, such as we would expect when, owing to unfavorable conditions, the process is retarded.

In the present paper I do not propose to inquire into the processes which produce the general phenomena of Kochism, but it may not be inapt to remark that they may be summarized as a precipitation of the changes observed in ordinary tuberculosis, or a concentration, within the short space of hours or days, of the phenomena which usually extend over months or even years. Pathology sustains this view, as we see, in an hour or two after injection, an abscess appearing in tissues which previously were perfectly free from all manifestations of inflammation, and, in pulmonary tuberculosis, a few hours were sufficient to produce the stage of consolidation, and a few days for the formation of cavities. It may not be impossible to comprehend this remarkable process if we consider the following hypothesis, which, in lieu of a better, may be adopted as a proximal explanation. By the presence of the bacilli and their products, the so-called tubercular tissue suffers in its vitality and resistance, but continues capable of maintaining its existence until a definite quantity of the bacillary products accumulate within it, to, as it may be expressed, the "point of saturation," when destructive inflammation and necrosis ensue. If the tubercular deposit is adjacent to a free surface with an easy avenue of exit, the necrotized tissue and its contained bacilli are extruded from the system, or, if the amount is capable of absorption, with the destruction of the bacilli by the "phagocytes," and other things being equal, a cure is the result; but if these conditions are not fulfilled, the consequences are either negative or injurious.

With regard to tuberculosis of the genito-urinary organs it is unfortunate that these favorable conditions very rarely exist. The dense fibrous capsules surrounding the corpora cavernosa, testes, and prostate, the tortuous, constricted, and elongated excretory passages of the kidney and the testis, interpose grave obstacles to elimination, and generally leave us the bladder alone as being anatomically favorable to the exhibition of tuberculin.

I have divided the cases I present to you according to their anatomical relations, and I have also usually indicated the pre-existence or sequence to the exhibition of tuberculin of these lesions which are interesting from the genito-urinary standpoint.

The lesions of the external genitals of which I have records, are three in number—all pre-existent.

1. Male, pulmonary tuberculosis, second stage, laryngeal lupus, circumcised for phimosis, left kidney sensitive; tuberculous tumor in the left corpus cavernosum of the size of an almond; the inguinal glands were swollen; injections one to eight milligrammes, no reaction; ten milligrammes, slight reaction, 100·5°; the tumor became softer and he gained three pounds in weight.

2. Female, aged eight, multiple tuberculosis of bones, *lupus* of face and mons Veneris; progressing, notwithstanding the most energetic treatment; injection; no reaction until ten milligrammes, then 106·4°; with local reaction on mons Veneris. Treatment continued.

3. Male, aged thirty-five, chronic eczema of scrotum or lupus? Injection for diagnosis, one to five millgrammes, gave no reaction, and consequently it was considered eczema.

It is obvious that in those cases the value of Kochism was minimal, as in the first two the lesions which interest us were obscured by other tubercular conditions which would render impossible any important conclusions, and in the last case our present knowledge of the great toleration which some subjects manifest to tuberculin compels us to consider a dose of five milligrammes as inconclusive.

In the three following cases of gonorrhœa and two of cystitis the patients were injected among twenty-two non-tubercular patients for the purpose of observing the phenomena produced by tuberculin in such subjects.

1. Male, aged twenty; gonorrhœa cured. Injections, two to five milligrammes, no reaction; ten milligrammes, 100·4°; twelve milligrammes, reaction 102·2°.

2. Male, aged twenty; cystitis cured. Injections, two, five, to ten milligrammes; reaction very slight, with headache and cough.

3. Male, aged twenty-one; gonorrhœa. Injection, five milligrammes; reaction, 99·3°, with cough, headache, pains in joint and chest. Injection, ten milligrammes; reaction, 101·8° and the same general symptoms.

4. Male, aged twenty-three; gonorrhœa. Injection, two milligrammes; reaction, 104°, with violent general symptoms and the loss of two pounds and a quarter in three days.

5. Male, aged twenty; cystitis after gonorrhœa. Injection, two milligrammes; reaction, 102·6°. Injection, five milligrammes; reaction, 104°. Injection, five milligrammes; reaction, 102·4°. Injection, six milligrammes twice, high reactions. Injection, ten millgrammes; reaction, 102°. Treatment, nineteen days; ten pounds lost; cystitis cured.

When investigating so uncertain a subject as Kochism, it is important to observe the relations between established conditions and the phenomena. In this group of cases we observe that the reaction was much more pronounced when suppuration was present, and when we consider the relation of tuberculin to the leucocytes we may obtain a clew to some of the very varied phases of the "reaction" under conditions which are apparently identical, but in which some latent process of a nature kindred to suppuration may coexist. It is interesting to observe that it was "the unexpected that happened" in the cure of the non-tuberculous cystitis. The following is another case of urethral disease:

6. Male, aged seventeen; tuberculosis, both apices, first stage; enlarged parotid; left kidney tender; extensive tuberculous ulceration of the urethra, with bacilli in the pus. Five injections, from one to ten milligrammes, without reaction until the last, when he had a slight general reaction and no local; however, he gained three pounds, and the ulcerated surface was improved.

The next group consists of five cases of disease of the bladder, in two of which tubercle bacilli were discovered in the urine:

1. Male, aged twenty-three; cystitis, pyelitis. First injection of three milligrammes gave reaction to 104°, with pains in the bladder and ureter; subsequent injections, up to seven milligrammes, produced no fever, but the pains were present after each.

2. Tubercular cystitis, with pains in bladder and urethra and much pus; cystoscopy yielded negative results. Injection of two milligrammes gave a violent reaction, without any local change. Tubercle bacilli present afterward.

3. Female, aged twenty-six; tubercular cystitis; *right* kidney enlarged and depressed. Injection of two milligrammes gave well-marked general reaction, and local in bladder and *left* kidney. No result.

4. Cystitis, similar to Case 3 in condition, reaction, and negative result.

5. Male, aged sixty-four; multiple tubercular foci in lungs, hæmorrhagic pleurisy, pyo-cystitis, slight fever, bacilli in sputum and urine. Injections up to ten milligrammes; reaction, 102·4° (late) only after one. No results.

With the exception of the case of non-tubercular cystitis included in the previous group, the results of tuberculin in cystic disease were not satisfactory.

The following case of strangury may be introduced here most fittingly. It is interesting as affording an example of the influence of tuberculin on a particular segment of the spinal cord—that containing the micturition center—and also as being one of the most remarkable examples of cure which I have seen:

Male, aged twenty-four; tuberculosis of right anterior lobe, first stage. Hæmoptysis. Sixteen injections, from two to one hundred milligrammes. Early injections followed by high reactions to 104°, falling gradually until no reaction followed seventy to one hundred milligrammes. The patient was discharged cured. Strangury occurred after every injection.

The following cases of renal disease will help us to realize the uncertain effects of tuberculin and the great variety of conditions in which it has been exhibited, which promiscuousness may, in its turn, account for much of the odium that recently has been cast upon Koch's method:

1. Male, aged thirty; pulmonary tuberculosis (second stage), recent pleuritic effusion, pericarditis and endocarditis, and nephritis. An injection of five milligrammes produced reaction to 104·8°, an uncountable pulse, frightful collapse, and icterus. The casts, blood-cells, and albumin were much increased; contrary to expectation, the patient did not die.

2. Tubercular kidney, the right convicted by catheterism of the ureters; nephrotomy, resulting in fistula and hæmaturia; no fever. Injections to ten milligrammes, with late reaction to 104° and rapid subsidence; pains in kidney; more blood in urine; no bacilli; dysuria; fistula unimproved, becoming "gelatinous"; lost three pounds in three days.

3. Male, aged thirteen; perinephritic abscess and fistula; spina ventosa of finger. Injections of five, two, five, five, twenty, to fifty milligrammes, with little or no reaction, but the general condition much improved; the fistula contracted, but continued as deep as before treatment.

In the following cases, the last affording the physician the experience of an autopsy, the patients were injected, apparently as a pure experiment, by one individual:

4. Nephritis gravidarum. Injection of one milligramme; reaction, 102°.

5. Hydronephrosis. Injection of one milligramme; frightful reaction.

6. Female, aged thirty; pulmonary tuberculosis (third stage); bacilli in sputum; amyloid degeneration of kidneys and intestines; albuminuria. Treatment lasted three weeks. Eight injections, from one to forty milligrammes; reaction never over 101·4°. Results, diarrhœa and death. The autopsy revealed recent and matured tubercles and inflammation everywhere; amyloid degeneration of the liver and spleen; the kidneys were

very vascular and hæmorrhages were numerous, as well as tubercles.

The next group consists of disease of the testis and epididymis.

1. Male, aged twenty-eight. Tuberculosis of left apex, second stage; epididymitis. Four injections up to three milligrammes; reaction 103·2°; abscess formed in epididymis; testis became enlarged and inflamed: bacilli in pus.

2. Male, aged twenty-five. Tuberculosis of both epididymes. Four injections, from five to nine milligrammes; reaction intense, up to 106·4°. The only local result, a great increase in size of tumors.

3. Tubercular epididymitis (single): Injections, two to five milligrammes; reactions high, local reaction very acute; a portion of node excised and bacilli, in all stages, found.

4. Tuberculosis of both testes and epididymes; hydrocele developed, after five injections, on both sides, and a fistula formed in an old scar.

5. Castration for tubercular testis, followed by implication of the inguinal glands. Injections of three milligrammes; reaction 106·6°; local effect insignificant.

6. Tubercular epididymitis and hydrocele. Five injections, followed by rapid absorption of hydrocele and marked diminution of tumor.

7. Tubercular testis; after injection the diseased organ rapidly swelled, and the other testis, apparently normal, became inflamed and indurated.

8. Pulmonary tuberculosis. After the ninth injection epididymitis appeared for the first time.

The last case appears to favor the hypothesis that the bacilli are distributed by Koch's method, as, if they had existed previously in the epididymis, it is reasonable to conclude that the earlier injections would have produced local reaction. It is well to observe that in the sixth case a favorable result was obtained, while in five cases marked lack of improvement followed the treatment; in one case no result was obtained, and in the eighth epididymitis resulted from the treatment.

I have notes of only one case of tuberculosis of the prostate, occurring in a man both of whose testes had been removed for tubercular disease. In this case the amount of the injection was gradually increased up to forty milligrammes without producing reaction. The digital diagnosis was distinct, owing to the nodular character of the growth in the prostate, in contradistinction to the continuous, globular tumor which is characteristic of carcinoma.

Albuminuria and its kindred disturbances, hæmaturia and peptonuria, were observed in many cases, sometimes pre-existing and sometimes produced by the treatment. It is in this relation that Koch's method has the most intimate and valuable connection with the genito-urinary system. In the observations preliminary to treatment by Koch's method albumin was present in a number of cases, in some of which the quantity of the urine was very much diminished, in one case being only two or three ounces in twenty-four hours. These cases, with the characteristic uncertainty of Kochism, were very differently influenced by the treatment; in some the albumin steadily diminished while the quantity of urine increased to and even far beyond the normal quantity; in other cases the albumin increased to solidification; the volume of urine diminished, the patients developing uræmic symptoms, and even dying. Between these two extremes the conditions assumed every position. A similar eccentricity of result was manifested in those cases in which the preliminary examination indicated the absence of albuminuria. In some patients strangury and uræmia followed injection, and albumin appeared frequently after the first, second, third, or even the eighth injection; in others it was present only for a few hours, during the height of the reaction, while in some it became permanent. Coma and death ensued in some of those cases, in one case after two injections.

Among the numerous causes of albuminuria it is probable that the most frequently active in Kochism are the following: 1, obstructed respiration; 2, high temperature; 3, vaso-motor paralysis; 4, cloudy swelling of the renal epithelium; 5, parenchymatous irritation or inflammation of the kidneys, owing to the presence of noxious substances; 6, perverted nutrition and degeneration of the secreting structures; and 7, blood change. The probability of the first-mentioned cause is sustained by the dyspnœa which is so frequently present during treatment. The great resemblance between the phenomena of Kochism and those of the exanthematous diseases would indicate the second, third, and fourth influences which are present in the last-mentioned conditions. The source of tuberculin and its chemical relation to the alkaloids, ferments, and proteids—such potent factors in septic conditions—remind us of the fifth factor; but as yet we are unable to say whether it is eliminated unchanged, as a more or less modified proteid, or in the simple and innocuous forms of oxides, water, carbonic acid, and urea. However, from its effects on the organs of elimination, it is logical to assume that it leaves the body as a pathological factor in either of the two first-mentioned conditions, while the permanence of the urinary changes in many cases would point to the sixth cause, and the seventh would be suggested by the almost invariable presence of leucocytosis which must remind us of the hæmic influence of the potent and all-pervading leucocytes.

Albuminuria was such a common clinical feature in Koch's method that I neglected to note it in many cases, but the following are sufficient for our purpose:

Transitory Albuminuria.—1. Female, aged twelve. Left apex: excision of hip five years before; fistulæ in both hips. Reaction, 104·2°, after injection of half a milligramme; after three to eleven milligrammes, reaction always less than 102·2°; general temperature less. Albumin appeared after the first injection. but not subsequently. Spleen enlarged.

2. Female, aged thirty-three. Right apex; tuberculosis of larynx; bacilli variable in number. Eight injections, one to ten milligrammes; no general reaction, the temperature being always subnormal—96° to 97°; pulse irregular, local reaction in larynx, albumin present after each injection.

3. Male, aged seventeen. Lupus of nose and lip; glands enlarged in mastoid and inguinal region. Injection, two to ten milligrammes; reaction to 106·2°; tuberculosis of mucous membrane of palate produced; papular eruption; albumin for twenty-four hours; no casts. In subsidence. pulse only 48.

4. Male, aged eighteen. Spondylitis (mid-dorsal); spastic paresis of lower limbs; bladder and rectum normal. Injection, five milligrammes; reaction in one hour and a half, 101·9°; pulse, 132; headache, pain in legs, paralysis, loss of reflexes

of trunk to sixth rib; albuminuria; dysuria; paralysis of sphincters of anus and bladder; local reaction in closed fistulæ in orbit and back, which reopened next day. Local reaction to 103° F.; on the second day decubitus (bed-sores) on sacrum and heels; trephining on the sixth day; arches of fifth, sixth, and seventh removed with the transverse processes of fifth and sixth vertebræ and the neck of seventh rib; caries of arch and cheesy masses in vicinity. Dura opened; œdema of cord, explaining loss of reflexes; six days after, wound healed; no albumin; sphincter ani acting; bladder still paralyzed; reflexes and sensibility returning.

5. Male, aged twenty-nine. Severe diarrhœa recently, but ceased; abdomen sensitive, albumin and casts present. Diagnosis, tuberculous or amyloid degeneration (?). Injection, two milligrammes; reaction, 104·6° for two days; pulse, 120; papular and vesicular eruption on groin; tinia circinata; urine in twenty-eight hours only an ounce and a half, solid with albumin, and eight stools; general condition bad; remarkable improvement afterward; albumin disappeared.

Permanent Albuminuria. — 6. Female, aged thirty-three. Recent exudative pleurisy; pericarditis and endocarditis; nephritis. Injection, five milligrammes; reaction, 106°; heart failure; pulse uncountable; albumin increased; casts; red cells; icterus; treatment discontinued.

7. Female, aged forty-three. Left lung, second stage; larynx ulcerated. After injection of seven milligrammes, albumin appeared in urine and persisted.

8. Male, aged seven. Spondylitis. Injection, half a milligramme; frightful reaction, 105·5°; pulse, 150; respiration, 55; albuminuria; general œdema; injections stopped, but albumin persists.

In the consideration of those cases, the question of the presence or absence of renal tuberculosis presents itself, the former being the more probable in those instances in which the produced albuminuria persists, while in temporary albuminuria some of the transitory influences were more probably present.

In two instances nephritis and death followed injection:

1. Male, aged sixteen. Hodgkin's disease. One to ten milligrammes injected; reaction very slight; albuminuria; nephritis; icterus produced; injections stopped. Death in two days. Autopsy: Lymphomatosis; no trace of tubercular inflammation of kidneys.

2. Female, aged twenty-three. Lupus of nose, palate, and pharynx. Injections, five to eight milligrammes; reaction local and general to 106·8°; injection of ten milligrammes; cyanosis, dyspnœa, and cardiac weakness; albuminuria, 55 per cent.; coma; death after twenty-two hours. Autopsy: Special and unknown nephritis; necrosis of epithelium and parenchyma; interstitial inflammation; infarction in Bowman's capsule and tubes; hæmorrhagic and hæmoglobinous casts.

I shall mention incidentally one case of diabetes, mainly with the object of demonstrating the intrepidity or the rashness with which tuberculin has been administered:

A man, aged fifty-two, had tuberculosis of both lungs, with diabetes (sugar, 1 per cent.); duration three years. Injections of from 0·5 to 10 milligrammes produced no reaction, general or local, and the disease progressed decidedly.

The following are a few cases of hæmaturia, in one of which, again, it was the unexpected which happened, the hæmaturia ceasing after the third injection of three milligrammes, and all albumin disappearing after the fifth:

1. Male, tuberculosis of kidney; cystotomy; and catheterization of ureters to determine the kidney. Diagnosis: Right kidney, nephrotomy some months before treatment; fistula remaining; when injected, no fever, hæmaturia; injection, six to ten milligrammes; reactions up to 104°; three pounds lost in three days; local reaction; fistula disimproving; became gelatinous; pains in kidney; dysuria and hæmaturia increased; no bacilli.

2. Male, aged thirty-four, hæmaturia and pyuria, six weeks' duration; injection of two milligrammes; reaction to 102·4°; local reaction in right kidney; abnormal urine; pus and blood continued in urine.

3. Male, aged seventeen, admitted with angina tonsillaris, pains in back, hæmaturia; tuberculosis suspected. Twelve injections, increasing to twenty-two milligrammes; reaction to each; the highest temperature 101·5°; no local phenomena. After the third injection of three milligrammes the blood disappeared, and after the fifth (five milligrammes) the albuminuria ceased and the patient was much improved.

The presence in tuberculin of the closely affiliated derivatives of albumin, peptone and albumose, raises the question of the source of the former element in peptonuria appearing during Koch's method. When we consider the infinitesimal quantity of the alkaloids in the amount of the lymph injected, about a millionth of a gramme, we can not regard its appearance in the urine as the result of the simple elimination of the unchanged peptones contained in tuberculin. On the other hand arises the possibility of the enzymes in the injection acting as unorganized ferments, and forming the peptone from the other proteid constituents of the blood. Still another speculation may be hazarded, namely, the formation of the peptone in the urine as a consequence of some post-secretory changes, due to the action on the unstable proteids of pepsin or some other ferment.

The association which exists between peptonuria and the suppurative process, the degeneration of the leucocytes and the metabolism of the albuminous tissues, gives to its presence a peculiar value in Kochism where the leucocytes play an important physiological part and tissue changes occur at such a rapid rate. The association of peptonuria with the condition known as "sepsis occulta" may aid in the comprehension of some of the phenomena we witness. It is interesting to remark that in Kochism we generally find a great increase of the leucocytes, amounting in many cases to leucocytosis, with their special accumulation in the tubercular foci, and at the same time we have clinical evidence of a septic process in the rigors, high fever, and other phenomena of the "reaction." Further observation in physiological chemistry is necessary to determine the relation between the two conditions, for the elucidation of many points in Kochism, as well as to discover important modifications of the method. Owing to the toxic effects of tuberculin, and the probability of peptonuria being produced by it, Kahler, of Vienna, examined the urine of twenty-nine patients under Koch's treatment, who had collectively received two hundred injections. He found that after the patients had received several injections, peptone was present in large quantities in the majority of the cases. Generally it appeared at the onset of the fever and was contemporaneous with it, but occasionally it was not present until the acme was reached. No definite ratio existed between the quantity of peptone and the amount of the injection, the temperature, extent of the disease, or the general reaction. He also found it in the urine of two non-tubercular subjects who were injected with tuberculin, and he regarded this as evidence of the pathological nature of the changes produced by the agent, while he considered the transient albuminuria as being non-febrile and rather the result of the direct irritation of the kidneys by the tuberculin. No relation appeared to exist between the presence or the amount of the peptones and the albuminuria.

In the urine of several injected patients that reaction appeared which is considered so significant in typhoid fever, and which is also seen in acute tuberculosis, the "diazo" reaction. Here is a confirmation of the view which has been forced upon me, that Kochism is a precipitation of the phenomena in ordinary tuberculosis, concentrating in a few days or weeks the various pathological changes and clinical occurrences which usually occupy months or years:

1. Female, aged twenty-nine. Chronic pneumonia and bronchiectasis; duration five years; no bacilli. Injection, followed by reaction to 100°; dyspnœa; diazo reaction in urine; no local change.

2. Male, aged twenty-six. Amyloid degeneration; nephritis; exudation in peritonæum; no fever. Diazo reaction before injection up to thirteen milligrammes; no constitutional or local reaction until fourteen milligrammes were injected, when one of 101° appeared; no local effect; no reaction to subsequent injections, and the diazo reaction disappeared.

3. Female, aged eighteen. Gastro-intestinal tuberculosis for two months; bacilli few. Indican and diazo; injections up to nine milligrammes with strong reactions; local reaction, none; after injection of nine milligrammes, solid fæces were discharged, the first time since sickness. Diazo ceased and reappeared several times.

The question of reaction following the injection of tuberculin in syphilis, as well as in other non-tubercular disease, has interested the observers, and in the four cases of which I have notes I find that strong general reaction was obtained in every case, with local reaction in the ulcer in one case, which was ascribed to the disturbance due to the general reaction, apparently in accordance with one of the old but enduring laws of sympathy, "general disturbance or fever, however induced, is apt to terminate in a local action which may not have any special relation to the constitutional condition."

1. Male, aged eleven. Hereditary syphilis. Injection, one milligramme; reaction, 103·2°.

2. Syphilitic ulceration of pharynx; strong reaction.

2. Syphilide; intense reaction.

4. Primary syphilitic ulcer; local reaction in ulcer.

I have passed beyond the bounds of the specific subject of my paper, the application of tuberculin in genito-urinary disease, but it is difficult to observe the lines of demarkation in our comprehensive and inclusive profession. The incatenation of all its elements is so marked that in pursuing one thread we meet with all the components of the fabric. Kochism, particularly, is in touch with every department of medicine and surgery, and Professor Gerhardt happily expressed my conviction when he said "everybody can learn from Koch's method." I wish this paper to be regarded as suggestive, and with this object I would finally call your attention to the youngest of the numerous progeny begotten by Kochism, the treatment of tuberculosis by cantharidate of potassium, proposed by Professor Liebreich. The hypothesis of the action of this remedy is based on two pathological phenomena which have received particular attention since the introduction of Koch's method. First, the weak and effete condition of the leucocytes resulting from the presence of bacilli and their products, with their consequent incapacity to resist or destroy the former, a condition which is characteristically seen in the giant-cells, which are converted by the bacilli from being their devourers into commodious habitations. Second, the recognized germicidal power of blood serum, human or other. Cantharidate of potassium, without any general reaction, produces serous effusion from the capillaries in the vicinity of the bacilli and bacillary tissue, which is largely composed of leucocytes, with the result of improving the nutrition of the leucocytes which destroy the bacilli. On the other hand, tuberculin produces violent constitutional disturbance and is supposed to exterminate the unwelcome bacillary occupants indirectly by destroying the tubercular tissue which they evolve and inhabit. Professor Liebreich thinks that with its tendency to act upon various structures with defective vital resistance, his agent may enable us to combine with, or substitute for it, other medicinal agents for the purpose of affecting the foci of various diseases.

Finally, reasoning from the cases I have quoted, as well as from analogy and anatomy, I do not think that tuberculin has an extensive application to genito-urinary disease especially, unless it is combined with operative measures which would afford free exit to the bacilli and their necrotized tissues. As an aid to diagnosis I can not consider its exhibition as being justifiable, when we recall the many instances in which it has produced, in comparatively trivial diseases, dangerous and even fatal conditions. In the selection of patients for Koch's treatment, I consider that constitutional stability, manifested by heart, lungs, nervous system, and temperature, is of much more importance than the extent, duration, or position of the tubercular lesion.

I could not have presented this paper in the limited time allowed me by Dr. Taylor if it had not been for the valuable assistance of my colleague, Dr. Merrigan, who, with much labor and ability, has selected and arranged the cases which I lay before you to-night. For this I thank him very sincerely, and you for your attention.

A New Ophthalmic Disease.—"A new ophthalmic disease has recently appeared in Vienna. It attacks the corners of the eyeball. The eyelids are moderately swollen, and the conjunctiva shows catarrhal symptoms, while small white specks appear upon the cornea, so that the patient is almost unable to see. Professor Stellwag, a renowned oculist of Vienna University, who has examined many of the cases, declares that the disease has remained unknown up to the present time, although it is not malignant or difficult to treat."—*British and Colonial Druggist.*

THE COMPARATIVE FREQUENCY OF ORGANIC STRICTURE OF THE URETHRA IN THE WHITE AND COLORED RACES.

STATISTICS, ETC.

By W. PAGE McINTOSH, M. D.,
PASSED ASSISTANT SURGEON, U. S. MARINE-HOSPITAL SERVICE, ETC.

In the present paper it is my intention to continue or add to a series of observations begun in 1881, a report of which was given in the *New York Medical Journal* of November 13, 1886 (McIntosh and Carter).

In the present paper the observations made and cases reported cover a period of four years—1886 to 1889, inclusive—which with former paper, a free use of which I shall make for the sake of comparison and the benefit of those who did not read it, extends the period of observations to nine years.

My practice being still among a mixed clientele of whites and negroes, a fair proportion of which was venereal, I have been still further impressed with the comparative rarity of stricture of gonorrhœal origin among full-blooded negroes. Traumatic stricture, rare in the white, is not infrequent in the negro. It is also proper to state that, while the proportion of mulattoes to blacks is small among my clientele, the majority of strictures recorded as negro prove on investigation to be mulattoes or quadroons.

This alleged immunity from gonorrhœal stricture in the negro is by no means due to any rarity of the causative affection, gonorrhœa.

Both races are doubtless equally obnoxious to the gonorrhœal poison.

As a matter of fact, owing to carelessness and more frequent exposure, rather than to greater vulnerability, more negroes apply for relief from this affection than do whites.

While the negro, *cæteris paribus*, is more frequently affected, the disease is undoubtedly milder and more amenable to treatment, often yielding to the simplest remedies.

The subjoined statistics are derived mainly from the records of the Marine-Hospital Service at New Orleans, La. (at which port the writer was stationed four years), and Cairo, Ill. (Those for whites only *include all sections*, a few of those in the first series being taken from notes in civil hospital and private practice.)

Cases are recorded in detail and pains were taken to verify records from original entry; doubtful cases have been expunged. The statistics are believed to be perfectly reliable. The patients were, as nearly as may be, under the same conditions of life, the employment, working on vessels, the same, the whites being under somewhat better hygienic conditions. To bring them in relative order of time, those cases observed from 1881 to 1885 will come first.

Table I.

Cases of Gonorrhœa and Stricture observed at the Marine Hospital, New Orleans, La., from 1881 to 1885.

	Gonorrhœa.	Stricture.	Approximate ratio.	Per cent.
Whites.................. ...	298	68	1 to 4¼	23
Negroes, including mulattoes..	154	12	1 to 12½	8

Stricture of gonorrhœal origin occurs, as shown by this table, in a given number of cases nearly three times as often in the white as in the negro race.

Cases taken from 1885 to 1889 are as follows:

Total number of all diseases observed by writer in white race, eleven hundred and sixty. Of these, one hundred and thirty-seven patients, or one in eight and a half, had gonorrhœa; of these one hundred and thirty-seven gonorrhœas, there resulted twenty-eight strictures, or one in four and eight ninths—20·5 per cent. In the negro race seven hundred and seventy-one cases of all diseases were observed; of these, one hundred and sixty were gonorrhœa, one in five (more)—20·5 per cent. In these one hundred and sixty gonorrhœas there resulted only eight organized strictures of urethra—that is, one in twenty, or 5 per cent., almost exactly reversing the figures used to express the relative percentage of stricture to gonorrhœa in the two races, the white being one *stricture to every five gonorrhœas, twenty per cent.; the negro, one stricture to every twenty gonorrhœas, five per cent.*

Table II.

Cases of Gonorrhœa and Stricture observed at the Marine Hospital, New Orleans, La., from 1886 to 1889.

	Cases of all diseases.	Gonorrhœa.	Stricture.	Approximate ratio of gonorrhœa to all diseases.	Approximate ratio of stricture to gonorrhœa.	Percentage of gonorrhœa to all diseases.	Percentage of stricture to gonorrhœa.
Whites....	1,160	137	28	1 in 8½	1 in $4\frac{8}{9}$	11¾	20½
Negroes....	771	160	8	1 in 5	1 in 20	20½	5

From this table we see that stricture of gonorrhœal origin is *more* than three times as frequent in the white as in the negro—that is, from a given number of cases of gonorrhœa, stricture occurs more than three times as often in the white as in the colored race. Five negroes are sick; one has gonorrhœa; twenty of these gonorrhœas, or one hundred sick negroes, give one stricture. It will require nine (nearly) sick whites to give one gonorrhœa, but only five of these gonorrhœas are necessary to give the stricture; forty-five sick whites, one stricture; but it is not my intention just yet, if at all, to study the relation of stricture to general disease, but the temptation to digress here is strong.

In regard to the suggestion that a difference existed in the size of the organ (penis) in the two races, hence a difference in caliber of the urethra, and that this might offer some solution of the problem, this needs to be mentioned only to be discarded, as there is probably no constant relation between the size of the penis and the caliber of the urethra. The penis of the negro is to all appearances larger than that of the white. Should we concede the rule laid down by Otis of a definite ratio between penis and urethra, we should expect to find a larger urethra by measurement. Such was not found to be the case; at least, if it is so, the difference is so infinitesimal that it hardly affords a rational explanation of the comparative immunity of the negro from organic stricture.

We may conclude without further argument that the urethra of the negro is quite as susceptible to the inflammatory process as that of the white is, but that this inflammation results in resolution oftenest in the negro, whereas in the white, either from want of resistance or some cause to us unknown, in place of arrest with resolution, induration and thickening often occur.

Table III was kindly furnished by Assistant Surgeon E. C. Carter, United States Army, for the former paper.

TABLE III.

	Cases of all diseases.	Gonorrhœa.	Stricture.	Ratio of stricture to gonorrhœa.	Percentage.
Whites..........	1,576	120	15	1 to 8	12½
Negroes.........	112	23	1	1 to 23	4

Fifteen hundred and seventy-six cases of all diseases in the white race gave one hundred and twenty cases of gonorrhœa—8 per cent.; fifteen strictures resulted, 12·5 per cent. In negroes, of one hundred and twelve cases of all diseases, twenty-three gonorrhœas, one gave rise to stricture—4 per cent. Here we have a larger number of gonorrhœas in the negro—namely, 20 per cent. in the negro against 8 per cent. in the white, and yet stricture predominates in the white, as is shown by 12·5 per cent. white as against 4 per cent. negro—about three to one.

The number of cases of gonorrhœa was not kept at Cairo, Ill., which detracts from its value for present purposes. The reporter expresses the opinion that as many gonorrhœas are recorded in negroes as in whites, but they are less obstinate.

TABLE IV.

Cairo, Ill., Strictures of Gonorrhœal Origin.

Whites..	23
Negroes (not including mulattoes)................	1
Mulattoes..	3

Five traumatic strictures are recorded at this port not included in the foregoing table—three in whites, two among negroes. It will be observed that the mulattoes probably furnish a fair proportion of strictures recorded at New Orleans and elsewhere as "negro," yet their number at Cairo is insignificant as compared with the full-blooded negroes. Here on the Pacific slope, at this port, San Francisco, Cal., where the proportion of negroes to whites is almost *nil*—for, in fact, practically no negroes apply—we find that the proportion of strictures to gonorrhœa is as one to three and a half, or nearly so. Taking, for the sake of comparison, the report of the Marine-Hospital Service for the district of the Pacific for the past three years, we find that in 1887 there were one hundred and seventy-four gonorrhœas treated, with seventy-nine strictures, or one in two and one fifth. In 1888 there were two hundred and seventy-two gonorrhœas with eighty-two strictures, or one in three and thirteen forty-firsts. In 1889 there were three hundred and sixty-three gonorrhœas with ninty-nine strictures, or one in three and two thirds. To place the three years in tabular form:

TABLE V.

Cases of Gonorrhœa and Stricture recorded at the Marine Hospital, San Francisco, Cal.

	Gonorrhœa.	Stricture.	Approximate ratio.	Percentage.
White...............	809	260	1 to 3¼	32·13

From this we see that where the clientele are all white the proportion of stricture to gonorrhœa is even greater than at New Orleans, although we take only the whites of that port. As bearing on this subject, the following tables have been compiled from the records of the Marine-Hospital Service for the four years and the medical records of this same service at this place (New Orleans); the time covered and the number of cases embraced is sufficiently great, I think, to furnish some safeguard against accidental errors. The subjects of the statistics of the Great Lakes are white men almost entirely. The statistics from the port of New Orleans and the Ohio and the Mississippi are from a clientele of whites and negroes in the proportion of three to two, as nearly as may be judged by the total number of all cases of all kinds of diseases treated.

The proportion of negroes with venereal disease is, however, greater than this, as the negro is but little liable to malarial diseases, while the whites are very obnoxious to these troubles; aside from this, the diseases are strictly comparable. The kind of employment being very much the same—short trips, frequent short stops ashore, high wages, irregular lives—aside from climatic, the only difference is due to race.

TABLE VI.

	New Orleans.	District of Ohio.	(M. and C.) District of Mississippi.	District of the Great Lakes.
Total number of all cases.....	8,116	20,380	18,368	33,082
Gonorrhœa....	590	1,376	1,107	2,850
Stricture.....................	52	127	106	352
Ratio of gonorrhœa to all diseases....................	14	15	16·5	13
Ratio of stricture to gonorrhœa	11·3	10·8	10·4	8

The first three columns give an average ratio of stricture to gonorrhœa 10·8.

The ratio of gonorrhœa to disease is approximately the same in the first three districts. Somewhat greater in the district of the Great Lakes, due probably to the number of cases being swollen in the former by malarial diseases—eight gonorrhœas in the white give one stricture. In the mixed clientele it requires 10·9 gonorrhœas to give one stricture. Dividing the gonorrhœas among the races in the proportion of two fifths negroes and three fifths whites—about the proportion of the races admitted for all diseases—every eight gonorrhœas among the whites give one stricture, as on the Great Lakes. (Though other tables show a greater proportion, I use this only; let each table prove itself.) Twenty-three gonorrhœas among negroes furnish one stricture; then there is a simple calculation—as eight to twenty-three, or three times as many strictures in the white as in the negro, gonorrhœas being the same.

In Table I we get one to every four and a half white, and one to every twelve and a half negro, or (nearly) three times as many strictures in the white as in negroes. In Table II the ratio is even greater, as five is to twenty, or four times the strictures in white as in the colored, gonorrhœas being the same.

There are, so far as I know, no reliable statistics extant indicating the ratio of stricture to gonorrhœa—in other words, what proportion of gonorrhœas result in stricture.

Milton * says: "Should the disease last a certain time, a certain per cent. will be followed by swelled testicle and stricture. . . . There is, indeed, reason to believe," he continues, "that in some persons a tendency to stricture takes place *almost as soon as the gonorrhœa has well established itself*, and that up to a certain degree, at any rate, *it constantly and uniformly tends to get worse*." He, however, deplores the fact that no statistics exist or are likely to come forward, from the difficulty of getting at the truth we require for this information. To get this, he says: "First of all it would be necessary, before attempting any deduction, to divide the whole male population in a given district into *a*, those who had had gonorrhœa, and *b*, those who had not; and, secondly, the males must again be divided into *c*, those suffering from, and *d*, those free from stricture. The proportion of *c* to *a* and *b* would give us something like data."

Belfield,† after quoting a number of cases in proof of his position, the reasons why stricture is so often overlooked, says:

"There are two reasons why so many strictures are overlooked; indeed, only the pronounced ones (those of small caliber) are recognized by the ordinary method. First, the cylindrical sounds fail to detect a slight or a resilient stricture; second, the meatus, when of fair size, is tacitly regarded as the measure of the urethral caliber; for, although this relation of the meatus to the urethral caliber is not formulated as a distinct proposition, yet it is held in practice by nearly all surgeons who use only the ordinary sounds, for they rarely deem it necessary to enlarge a fair-sized meatus in "sounding for stricture," though just why the meatus is regarded as an index to the dimensions of the urethra does not appear; indeed, we would expect the meatus, like the mouth of every other pipe designed by Nature or art to throw a stream, would be smaller than the stream behind it, and this is found to be true by actual measurement."

Many excellent surgeons decline to regard as a stricture anything which will admit a No. 12 English sound, and in this they follow no less an authority than Sir Henry Thompson,‡ who says: "If Nos. 10 or 11 of our scale goes easily—above all, if it is withdrawn without being held and slides out with perfect facility—take my word for it he has no stricture." Belfield cites a case in which a 24 English sound passed and returned "without any serious resistance," but upon the introduction of a 36 French bulb two decided contractions were found to exist. "With the urethrometer I found that the caliber of the urethra at these points was only thirty-three and thirty-one." By dilating urethrotomy, this patient was cured of a gleet which, with its preceding gonorrhœa, had lasted nearly two years.

Within the past few days I have been consulted (here in San Francisco) by a patient who had for some time been under treatment, by a surgeon of recognized ability, for neuralgia of the bladder and perinæum, a slight gleet, etc. Stricture had been recognized, "but was of too large a caliber to be of any consequence." To use the patient's own words: "About every ten or fifteen minutes I have such a griping pain in the neck of the bladder and between my legs that I can neither sit nor stand, but have to double up and groan, and when I urinate it gets worse," etc. This man had been discharged from the hospital with instructions to pass a "bougie" twice a week; upon examining him, much to my surprise, a No. 23 English sound passed into the bladder and returned with but little resistance. A bulbous sound, 30 French, met with considerable opposition in withdrawal. I cut his stricture up to 34 French. The neuralgia, vesical tenesmus, gleet, etc., have entirely disappeared, and the patient is rapidly recovering from a pronounced anæmic condition into which he had fallen. I introduce these cases to show the *necessity* of using either a *urethrometer* or *bulbous sound* in searching for stricture; the ordinary cylindrical sound is *not intended* for *diagnostic* purposes. The ordinary normal urethral caliber is rarely less, usually more, than 17 English (30 French), and a considerable constriction may oppose no resistance to a No. 12 or 15 sound.

In the following (and past) tables I am not speaking of old men in whom strictures are found "with special frequency," but of men in the prime of life.

To judge rationally as to the frequency with which gonorrhœa is complicated with or followed by stricture, the two tables directly following are taken from the *white* race only, and cover a period of eight years combined.

TABLE VII.

Relative Frequency with which Gonorrhœa is followed by Stricture.

	Port of San Francisco.	District of the Great Lakes.	Average.
Gonorrhœa	995	4,044	5½
Stricture	318	473	
Ratio	3	8½	

Of these two districts, the average is five and a half gonorrhœas to give one stricture.

The next table is larger and covers a greater number of cases.

TABLE VIII.

	District of North Atlantic.	District of Middle Atlantic.	District of the Great Lakes.	District of the Pacific.	Average.
All diseases	16,718	20,408	40,957	11,246	6½
Gonorrhœa	1,123	1,599	4,044	1,124	
Stricture	164	238	473	347	
Ratio of gonorrhœa to all diseases	15	13	10	10	
Ratio of stricture to gonorrhœa	7	6⅓	8½	3	

In the districts given above we find the highest estimate to be eight and a half gonorrhœas to one stricture; the lowest, three gonorrhœas to one—an average of six and a half; to this we add the average got in Table VII, $6\frac{1}{2} + 5\frac{1}{2} = 12 \div 2 = 6$, adding the two averages and dividing by two, the number of tables taken, and we get for our general average six. This is slightly more than heretofore, but it is not difficult to take the ratio from the other tables, as $4\frac{1}{2} + 4\frac{8}{9} + 8 + 5\frac{1}{2} + 6\frac{1}{2} = 29\frac{7}{18} \div 5 = 5\frac{83}{90}$, so near six that it practically gives us the same result. We may conclude, then, that this number of gonorrhœas will, as a rule, produce a stricture, and our conclusions are based on the careful analysis of sixteen thousand five hundred and thirty-five cases of gonorrhœa and nearly three thousand strictures, and extending over a period of eight years and a half of time.

---

* Milton. *Pathology and Treatment of Gonorrhœa.* Fifth edition, pp. 70, 71.

† Belfield. *Diseases of the Urinary and Male Sexual Organs*, pp. 37–39.

‡ *Diseases of the Urinary Organs*, 1882, p. 18.

Having satisfied ourselves as to the frequency of stricture in both races, we will make a combination of the tables which include both. Such a combination takes in Tables I, II, III, and VI.

TABLE IX.

Combination showing Frequency of Stricture in White and Colored Races.

	WHITE.			NEGRO.		
	Gonorrhœa.	Stricture.	Per cent.	Gonorrhœa.	Stricture.	Per cent.
Table I......	$4\frac{1}{2}$	1	23	$12\frac{1}{2}$	1	8
Table II......	$4\frac{8}{9}$	1	$20\frac{1}{2}$	20	1	5
Table III.....	8	1	$12\frac{1}{2}$	23	1	4
Table VI.....	8	1	$12\frac{1}{2}$	23	1	4
	$25\frac{1}{4}$	4	$17\frac{1}{8}$	$78\frac{1}{2}$	4	$5\frac{1}{4}$

Thus in twenty-five and a quarter whites we get four strictures (one in six), while it requires seventy-eight and a half negroes (one in twenty nearly), or more than three times as many negroes, to give the four strictures, gonorrhœas being the same.

To sum up: The negro is more liable to contract gonorrhœa, but is much less liable to get stricture as a result; about one stricture to twenty gonorrhœas. The proportion of gonorrhœas in whites producing stricture is six to one, one stricture to six gonorrhœas. Negro, twenty gonorrhœas, one stricture; mixed clientele, ten and nine tenths gonorrhœas, one stricture; white, six gonorrhœas, one stricture. Gonorrhœa occurs about once in twenty cases of sickness among white men, and about once in five cases of sickness among negro males.

Treatment can and does lessen the liability to strictures by curing the disease. As to mode of treatment, injections, if properly used, do not increase the liability to stricture. No injections were used in the cases of Table III. Injections of solution of cocaine are excellent in irritable urethra and bladder and vesical tenesmus. Used just before micturition, they have no equal in preventing these distressing symptoms. Care is necessary in their use.*

SAN FRANCISCO, CAL., *June 5, 1890.*

---

* I have found nothing equal to hydrastine in treatment of gonorrhœa.

℞ Hydrastinæ.................... gr. j to ij;
Zinci acetat., } .... āā gr. j.
Plumbi acetat., }
Aquæ puræ.

M. Sig.: Use as injection after having washed out the urethra with warm water. Internally: alkalies and copaiba.

A PRELIMINARY REPORT ON THE TREATMENT OF ATROPHIC RHINITIS (DRY CATARRH) WITH ICHTHYOL.*

BY DAVID PHILLIPS, M. D.

THERE is probably no disease that causes the patient greater unhappiness or is more disgusting to his family and friends than atrophic rhinitis. The terribly dry sensation in the nose and throat, the disgusting scabs and disagreeable odor, make him a social outcast, and he is likely to become morose and gloomy, unfit for work or pleasure. Under the plans of treatment heretofore pursued it has usually taken months, even years, to give relief. Seiler says: "With the best and most faithfully carried out treatment a cure can not be effected in less than a year, and it often requires much more time than that."

There was, therefore, great need for improvement in the treatment of this disease, and I began searching for a more effective remedy than those heretofore used. I found that ichthyol had proved available in atrophic conditions elsewhere, specially to possess excellence in skin troubles; and as the eruptive diseases of the skin occurred also on the mucous membrane, and as mucous membrane, when prolapsed and exposed to conditions similar to that of the skin, soon resemble dermoid tissue—in fact, they are interchangeable—I thought this agent ichthyol well worthy of a trial. The results thus far obtained have been surprising. It was thought advisable to use an oily solution of the drug, and an order for such solution was placed in the hands of different druggists. At last, after months of experimentation, Mr. Thomas Latham, of Seventy-fifth Street and Third Avenue, succeeded in making a five per-cent. solution in keroline, and it was with this preparation that the cases were treated. The number of cases treated to date is twenty-seven. The first application was made seven months ago.

The case was that of a lady twenty-three years old. Both sides of the nose were in an atrophic condition, the inferior turbinated bodies being barely perceptible, and the mucous membrane of what remained of the middle turbinates presenting a shrunken and crenated appearance; the pharynx could be seen through the anterior nares. Treatment was commenced with a one per-cent. ichthyol solution which was gradually increased to a five-per-cent solution.

During the first two weeks scab formation ceased, and by the end of a month the odor had disappeared. By this time the mucous membrane had lost its crenated appearance and was slightly moist. The applications were made every other day the first two months, weekly during the third, and twice in the fourth month.

The patient was seen a few days ago and said that she had never expected to be so well. There had been no return of her symptoms. She still uses a spray at night.

The second patient had a hypertrophic condition of the right side of the nose and an atrophic condition of the lower portion of the anterior and middle parts of the left side. There were not many scabs, but the odor was very offensive. A five-per-cent. solution was used from the start. In a month all symptoms had disappeared. I saw this patient six weeks ago and there had then been no relapse.

---

* Read before the Section in Laryngology and Rhinology of the New York Academy of Medicine, March 24, 1891.

It would be a waste of time to give histories of all cases treated. Suffice it to say that in all the cases, but one, to be hereafter described, improvement was manifested after the second application and scab formation stopped in from a week to ten days. In those cases attended with much odor, although the scabs cease forming, the odor remains for some time, usually for three or four weeks, though there is an improvement in this respect after the first week.

The patients declare themselves delighted with the change in their condition, and it has been difficult to keep some of them coming to the hospital after a few weeks' treatment, they considering themselves cured. Three of the patients had been coming to the hospital for months, and a number of different plans of treatment had been tried on them, but without success. On the pharynx the remedy relieves the distress that the patients complain of, but the mucous membrane presents the same appearance to the eye as before treatment. In only two cases was there any change in this respect; it appeared softer and more thickened. In one case of atrophic rhinitis the remedy proved an absolute failure. This was the case of a boy who had been treated for the last three years by Dr. H., who had tried on him every new treatment suggested. This boy complained that the treatment made him sleepy and stupid and also gave him headaches. He may have a peculiar idiosyncrasy as regards this drug. I have commenced its use in cases of chronic laryngitis, and hope soon to study its effects on tubercular and syphilitic affections of the larynx.

About three months ago I placed the solution in the hands of several friends, who have kindly sent me reports of the cases treated. A description of two of them, furnished me by Dr. Frank M. Hillyer and Dr. M. E. Hennessy, will illustrate the quick effects of the drug.

Dr. Hillyer's report was as follows:

Miss M., aged fifteen, applied for the relief of a very offensive ozæna. Three years ago she commenced treatment for what was evidently a hypertrophic condition. As her symptoms at that date were inability to breathe through the nostrils, she was advised to use salt and water by a throat specialist. She used the wash as was directed, and a year later the nostrils were still so closed that she could not expel the accumulations. About that time her breath became fœtid. The family physician was called in, and, although expressing very little hope, suggested that salt and water was the best thing she could use to clear out the head. The breath became so offensive that she had to leave school, and was even avoided by her family. When I first examined the nostrils they were plugged to the anterior orifice with inspissated mucus. After they had been cleaned, an application of a five-per-cent. solution of keroline ichthyol was made. The patient was ordered a two-per-cent. solution as a spray in a compound of menthol and benzoinol. The character of the secretions changed after the third day and were less offensive. At the end of the first week she was able to expel the greater quantity of the mucus. The mucous membrane, which was absolutely parched and devoid of any color, has during the last week been covered with a film of moisture and has taken on a slight blush. The condition of the parts is improving gradually but surely.

Dr. Hennessy reports the following:

Miss M., twenty-two years old, suffering from "dry throat," which was persistent for three years, applied to the Throat Department of the Manhattan Eye and Ear Hospital for relief. Examination showed dry condition of the naso-pharynx and oro-pharynx. A thin film of dried secretion covered the nasal mucous membrane. The patient's voice was husky, and she complained that the swallowing of liquids was painful. This patient had gone the rounds of our different clinics and had exhausted the list of drugs used for such cases without receiving relief—in fact, she believed she was worse. The ichthyol solution was applied to the pharynx. The immediate result was marvelous. The poor girl pronounced herself entirely comfortable for the first time in three years. Knowing this would be but temporary, she was directed to return in three days. The first application was made on Friday, and on the following Monday she reported as having been entirely comfortable until the middle of that day. The application was repeated, and the patient directed to procure an atomizer for daily use at home. Two weeks have elapsed and she remains as well as after the first application. No return of the dryness at any time since, though the appearance of the pharynx is unchanged.

The mode of application of the remedy is as follows: The nose is sprayed with an alkaline solution and cleaned by means of cotton wrapped around an applicator. If necessary, the spraying is repeated until the nose is thoroughly cleaned. It is then dried and the five-per-cent. keroline ichthyol solution is applied thoroughly by means of the cotton-wrapped applicator. An oily spray for cleaning is not advisable, for, although it softens the secretions, a certain part of the oil, with what it has in solution, remains on the mucous membrane, which prevents the ichthyol solution from coming in contact with the membrane. The patient is ordered to clean the nose night and morning with an alkaline spray, after which he sprays in a mixture consisting of one part of keroline ichthyol to from three to five parts of liquid albolinc. A little eucalyptol or menthol may be added to this to disguise the fishy taste of the ichthyol. There is generally some serous discharge following the use of the spray, which lasts about half an hour.

If, however, the strength of the solution used in spraying is too great, there is some pain and the discharge lasts for hours, and is followed by an excessive sense of dryness.

The patients are also put upon constitutional treatment —such as cod-liver oil, Fellows's hypophosphites, etc.—and all pressing and necrosed parts removed.

At a recent meeting of the staff of the throat department of the Manhattan Eye and Ear Hospital, in which hospital the trials have mostly been made, so careful an observer as Dr. O. B. Douglas expressed the belief that the remedy would prove of great value in the treatment of this class of diseases.

In the *Australian Medical Gazette* of September 15, 1890, Dr. A. Mueller, speaking of the therapeutic action of ichthyol, says:

"The therapeutic effects of ichthyol must be ascribed to a peculiar close combination between sulphur and carbon, introducing both elements into the system in a pure and at the same time soluble form. They consist, briefly stated, in a contraction of congested and abnormally distended capillaries. Whenever such congestion and consequent distention exists, be it active or passive, the beneficial action of ichthyol becomes almost immediately manifest. It is only by bearing this in mind and by considering capillary congestion in one form or the other, as accompanying the most heterogeneous diseases—in fact, as frequently being the disease we have to treat—that we can understand the efficacy of ichthyol in numerous affections that have no relation whatever to each other and between which, barring the congestion of capillaries, it would be difficult to find a single feature of similarity or analogy."*

This would suggest its employment in hay asthma.

In conclusion, I have to thank Dr. Robert T. Howe and others for the very valuable aid they have given in prosecuting these researches.

131 East Eighty-sixth Street.

FIVE CASES OF
AXIAL ROTATION OF OVARIAN TUMORS
OCCURRING IN THE PRACTICE OF MR. LAWSON TAIT.

By FRED B. ROBINSON, M. D.,
TOLEDO, OHIO.

At the meeting of the British Medical Association at Birmingham, January 30, 1891, Mr. Lawson Tait gave a short report of the following four cases of twisted ovarian pedicle which had occurred just lately in his practice. I took the notes of his report and was enabled to supplement them through the kindness of Dr. Christopher Martin, who is Mr. Tait's assistant. Dr. Martin demonstrated part of the specimens at the same meeting. Mr. Tait has had a vast experience in the subject of rotated tumors and talks with fascinating interest on this as yet little explored field. He has acquired such a mastery in abdominal diagnosis and such skill and dexterity in executing abdominal sections that his work is generally of interest to all gynæcologists. I am sure that the following cases can be read with benefit by every gynæcologist. The genius, pluck, and untiring energy of Mr. Tait have cultivated pelvic and abdominal surgery far beyond the hopeful dreams of even the present surgeon of fifty years. The very simplicity of his methods and work confounds men, and his unequaled results tell the simple story of a wonderful and gratifying progress. I have never witnessed in any country such genius of diagnosis or such skilled dexterity in difficult laparotomies as in his practice.

I have freely introduced comments and remarks throughout the report, which I drew up in a short conversational style. The explanations and views noted in the paper I have simply added to Mr. Tait's short report of the cases.

Case I.—Mrs. N., aged sixty-one, hospital patient under the care of Dr. Christopher Martin, widow. Change of life twelve years ago; had complained of fullness of abdomen and general dyspeptic conditions. Dr. Martin recognized a cyst about the size of a six months' pregnancy and advised its removal. She hesitated about the operation and returned in a week's time with no change. Three days afterward she called Dr. Martin, who found her suffering from acute symptoms which began the day before quite suddenly. She was propped up in bed, in great pain, with dry, brown tongue, and frequent vomiting. The abdomen was greatly distended and on touch very tender, and there was marked constipation. The pulse was 130 and temperature 101·5° F. The cyst had doubled in size in three days. Dr. Martin went to see Mr. Tait, and communicated the case and symptoms to him. Mr. Tait diagnosticated at once, without seeing the woman, that it could scarcely be anything but an axial rotation of an ovarian tumor. He said, "That is, no doubt, a tumor twisted on its pedicle with hæmorrhage discharging in it."

It may be noted that a tumor with a pedicle capable of being twisted to the point of strangulation will allow the arterial blood to pump into it long after the return venous blood is cut off. The twisting soon closes and occludes the soft-walled vein, but it is much more difficult to occlude the rigid-walled artery. So the artery carries the blood into the tumor long after the returning vein is completely obstructed. In this manner the capillary blood-vessels become overdistended and rupture takes place, causing a filling and swelling of the tumor with blood and serum.

Whenever an abdominal tumor suddenly increases in size in a few days, one should be on the alert for twisted pedicles or rotated tumors.

The same day that Dr. Martin discovered her acute symptoms she was conveyed to Mr. Tait's private hospital and operated on. Mr. Tait, assisted by Dr. Martin, opened the abdomen and found a large cyst, full of blood. The surface was of a dark reddish-brown color. The pedicle was twisted on itself to the right four times. The tumor was in a condition of gangrene. She made an easy recovery and left the hospital twenty days after the operation. Dr. Martin informs me that she is well since, as he has seen her.

This is a case in which skill alone saved the patient. More than once have I seen late diagnosis and faulty technique cause the fatal doom of a patient. In this case the diagnosis was ideal, the technique perfect, and the result—life. However, few of us can ever hope to attain to the perfected skill of Mr. Tait.

Case II.—When Mr. Tait was spending a holiday in Florence, Italy, a couple of months ago, he was asked to see a sick lady by Dr. Coldstream, of that city. The lady was seventy-eight years old, and Dr. Coldstream had found her very seriously sick the previous day with a mass in the abdomen. Her menstruation had ceased many years. She was married and had only one child. She was a remarkably strong and healthy woman for her age. When Mr. Tait saw her she had a worn and anxious look and was in acute pain all over the abdomen. The pain had set in two evenings before very suddenly, and was caused, according to her, by twisting the body while getting into bed. Six months previous she had a swelling in the right leg, and a physician recognized a tumor in the abdomen. She thought she had been increasing in size for three years, but was under the impression that she was only getting stout. All the functions of the body were considered by Dr. Coldstream to be normal, but the abdomen was very tense and painful. It was evident, Mr. Tait noted, that the tumor reached from the pelvis to the xiphoid cartilage. She had some dark-brown vomiting and could not permit any manipulation of the abdomen, and, from the history, Mr. Tait diagnosticated the presence of an ovarian tumor which had become rotated on its axis and twisted so many times that it had suffered strangulation. Dr. Coldstream had eased the pain by administering morphine. Mr. Tait informed the patient and her friends that she was not beyond surgical aid even at her advanced age, but that if anything were done it must be done quickly, as delay was out of the question in her case. After much discussion, the patient accepted the risk of the operation. Mr. Tait operated the same day and found, on opening the abdomen, a large strangulated ovarian tumor of a dark reddish-brown color, with bloody pus in its cavity and texture. The tumor was rotated on its pedicle between three and four times. The pedicle was tied and the tumor cut away. The patient made a remarkably good recovery. Her temperature did not rise more than one degree above normal; the highest recorded pulse was 88. Mr. Tait spoke highly of Dr. Coldstream's discretion and energy in pressing for surgical interference, even at the risky age of seventy-eight, for, unless he had recognized the gravity of the condition and called in some one who was in the habit of acting energetically in a surgical direction, this old lady would not have had the relief which the operation granted, and Mr. Tait generously laid the credit at the door of Dr. Coldstream and not his own.

---

* This therapeutic action is advanced by Dr. Mueller to account for the action of ichthyol in certain skin diseases, intestinal trouble, and neuralgias. It, of course, would not explain its action in atrophic conditions.

In this case a *little* knowledge would have been a dangerous thing, especially if it were little enough to infuse delay and hesitation sufficient to end in disaster—death. This is the triumph of possessed skill applied in perfect execution. It is skill beyond even the Utopian dreams of our forefathers. The sun of progress is shedding a few more rays on our medical paths, but the soul and mainspring of progress are the individual.

Case III.—Mrs. A., aged forty-nine, married twenty-eight years, was sent to Mr. Tait. She had three children, the last nineteen years ago, since which time she had had no menstruation till last May. Since then she had a show with irregular periods lasting two or three days, with no pain. The last period was two weeks previous to Mr. Tait's seeing her, a month ago. A year ago she noticed that her abdomen was enlarging, but she suffered no pain or other symptom. When seen, her abdomen was found enlarged, and Mr. Tait diagnosticated a parovarian cyst, unilocular, soft, and mobile, with free fluctuation. The operation was performed fourteen days ago, and a solid cyst full of blood-clot and fluid was found. The surface of the cyst was of a greenish hue. It was strangulated and gangrenous. The pedicle was rotated five or six times to the right and looked black, exactly resembling an umbilical cord. The cyst was adherent to the small and large intestines and extensively to the pelvic and abdominal wall. It had to be peeled off bit by bit with the fingers. In this peeling off and digging up and breaking down adhesions and old exudates Mr. Tait has acquired the most consummate skill I ever witnessed. He is a prince in the realm of separating old inflammatory products without destruction of the individual organs concerned in the pathological bed. The peritonæum was flushed out and a drainage-tube inserted. The patient had an uninterrupted recovery, except that she had a slight attack of mumps. It is remarkable in this case that there was a total absence of acute symptoms. But the operation was, no doubt, done in the nick of time to save life.

It is uncertain how long the tumor was strangulated, as one may occasionally be preserved a considerable time in the uniform temperature of the abdomen and excluded from the air. Some observers have noted tumors strangulated entirely off from their original pedicle, and, having formed new channels of nourishment from the sides, continue to live from such source of nourishment.

Case IV.—Mrs. D. was sent to Mr. Tait by Dr. Clark. She was married thirty-eight years; last child twenty-five years ago; had change of life eight years ago, having seen nothing since. About a year ago she noticed the abdomen getting larger, and especially on the right side, low down. The substance increased and developed so as to grow in the right lumbar region. The patient said it worked up into the loin. She had no pain until eleven weeks ago, and then she began to suffer pain in the right iliac region, not constant, but increased by exertion. She found she was worse if she lay on her left side and had to lie on her back or right side. The mass of the tumor lay on the right kidney, and Mr. Tait diagnosticated tumor of the right kidney in addition to a pelvic mass, which could be felt from the vagina. Abdominal section, sixteen days ago, revealed a tumor of the left ovary packed in the pelvis, and extending as high as the umbilicus. On being tapped, the fluid was found to be thick pus. It was removed, and the pedicle tied off. The ruptured mass was found to be a tumor of the right ovary with an extremely long pedicle, which was twisted like an umbilical cord. It lay in the flank over the right kidney above the other tumor. It was a multilocular cyst and covered on the surface with grape-like cysts resembling somewhat those characteristic of Rokitansky's tumor.

In this case the tumor was not infiltrated with blood, as it is probable the axial rotation had not progressed sufficiently to produce strangulation. Of course, a pedicle of a tumor may slowly and gradually acquire a spiral form without venous obstruction, just as the umbilical cord carries on its normal blood currents through its spiral arteries and vein. But there may come a point in the axial rotation of such tumors, be it slow or rapid, when the twist in the pedicle mechanically occludes the returning venous blood, while the artery continues to pump in its regular supply, thus inducing capillary rupture and hæmorrhage into the tumor. The twist on the pedicle would need to be quite considerable to arrest the entrance into the tumor of arterial blood or to mechanically occlude the caliber of the artery.

Mr. Tait remarked that the twist in this pedicle was noteworthy, as it was from before backward and to the left, while all other tumors found twisted on their pedicles were from before backward and to the right.

Mr. Tait's theory of axial rotation of tumors on their pedicles is that it is probably caused by the filling and emptying of the rectum. In this case his theory is confirmed, as it would be the ascending colon in the case of a tumor in the right lumbar region, and that would cause the tumor to rotate to the left; but if it were on the left side, the emptying and filling of the rectum would cause the tumor to rotate to the right. This case made an easy recovery without any untoward incident.

Since I put the foregoing reports and comments together, another patient with axial rotation of a tumor has been operated on:

Case V.—Two weeks ago Mrs. X. came to the hospital with an enlarged abdomen. She was twenty-four years old; menstruation began at fifteen and was regular. She was married fifteen months, and had a child at the end of the first nine months of married life. The birth was normal and no instruments were used. Two weeks after labor the belly was as large as it is now (six months after). She has some pain in the pelvis and back. There appears a cyst a hand's breadth above the pubes. The night before she was given a mild laxative and the abdomen was washed.

Mr. Tait does not have any special operating-room in his private hospital, but he operates in the patient's own room. His operating-table is simply a board resting on two wooden horses. A blanket is thrown over the board. The patient is generally put to sleep in her own bed. While she is anæsthetized, the nurses bring in the necessary instruments, which are very few and very simple. When the patient is narcotized and on the operating-table, Mr. Tait comes into the room and quickly observes if all is ready. He has a bag containing his sponges, which he opens and counts out a certain number, and makes one nurse responsible for them.

At this operation Dr. Christopher Martin gave the anæsthetic, Mr. Tait stood at the right of the patient, and I stood on the opposite side to assist if necessary; but Mr. Tait does nearly all his own work in an operation. He uses a little scalpel with a blade about an inch long. He seems to always make as short an incision as possible.

In this case he opened the abdomen by a very short incision, and in the wound a cyst appeared, which was tapped, and out of it ran a dark-green fluid, looking not unlike the stool in summer diarrhœa. The wound was enlarged and the cyst was found universally adherent. The adhesions were fine and delicate and very vascular. Mr. Tait at once pronounced it a rotated tumor. The wall of the tumor presented dark patches which had the appearance of dead tissue, and these patches gave it a mottled appearance. The tumor had rotated so much that it almost cut off all nutrition through the pedicle, and was now receiving its nourishment through its walls. The cyst was drawn out of the wound and ligated off. The abdomen was closed by silk sutures including skin, fascia, muscles, and peritonæum. A glass drainage-tube was inserted, and the woman made an easy recovery. (To-day is the thirteenth day after the operation, and she is doing excellently.)

Now, there is no doubt that this tumor rotated on its pedicle during labor, for she distinctly stated that her belly was just as large two weeks after labor as now. The tumor had not altered in size in six months. She did not complain very much.

This tumor had gone on to a state of gangrene, and resumed its living activity by new sources of nutrition through the new adhesions which formed by the inflammation universally on the tumor walls. She did not come because she was any sicker now than at any other time, but simply because her local doctor told her she had a tumor and it should be removed.

These are all successful cases; but in some cases of rotation of tumors on their pedicles late diagnosis makes them fatal, and, unless a man is bold in advising surgical interference, it quickly gets too late to do any good.

I remember a case sent to Professor Czerny, of Heidelberg, in 1884. When the woman entered Professor Czerny's clinic she was very sick. Her belly was quite large, and her pulse and temperature were both high. Professor Czerny said, for the moment he was unable to diagnosticate the case, but that he would carefully examine her again in a little while, and that he would operate in a short time any way, as she was in imminent danger. On opening the abdomen, the tumor was found in an advanced state of gangrene. It had rotated on its pedicle and cut off the venous circulation until the tumor was engorged to death. The woman was so badly infected before the operation that she died in three hours (?) after it.

GLANDULAR ABSCESSES IN YOUNG CHILDREN.

By J. A. HOFHEIMER, M.D.,

VISITING PHYSICIAN, HARLEM HOSPITAL DISPENSARY.

Abscesses of the glandular system are of sufficiently frequent occurrence to be familiar to every practitioner. The cause of this trouble is variously ascribed to diathesis or to some external infection. It is with regard to the latter cause that the writer wishes to deal mainly.

Before considering the more recent writers on the ætiology of adenopathy it may be well to notice the general situation of these swellings. While a glandular inflammation may occur in almost any portion of the body, it is in the neck that we most generally find this disease. Treves (1) reports that in a series of 155 cases, 131 occurred in the neck, 12 in the neck and axilla, 1 in the neck and groin, and 1 in the neck, groin, and axilla. W. W. Van Arsdale (2) says that out of 555 cases, adenitis of cervical origin had occurred in the proportion of 23 per cent. in adults and 77 per cent. in children.

Ætiology.—Henoch (3) shows that suppuration is especially marked during the first years of infancy; the younger the child the more frequent the abscess. He believes that there must be a distinct suppurative diathesis. Bouchut attributes the frequent suppuration to three diatheses—(*a*) puerperal, (*b*) strumous, and (*c*) syphilitic, the first referring to a child who has nursed milk from a mother suffering from puerperal infection. Escherich (4) declares that in all children at the breast, whether they are well or ill, the *Staphylococcus albus* and the *Staphylococcus aureus* are constantly to be found in the liver and in the more superficial layers of the epidermis. These pyogenic germs may set up an inflammation. Wallace Wood (5) comes to the conclusion that there is a glandular temperament or constitution, just as there is a muscular or nervous. Under the name of micro-polyadenopathy Legroux (6) describes the enlargement of the lymphatic glands which are so commonly found in the necks of children. These inflamed glands are found in cases presenting tubercular manifestations, or may be due to dentition or the lymphatic state. Daremberg (7), of Cannes, has seen this specific polyadenopathy in relation with tubercular tonsils, and further states that tubercular amygdalitis can be produced easily by the cohabitation of children with tubercular patients.

While a large number of writers believe that there is a special diathesis in the causation of these abscesses, there is also to be considered as another factor in their ætiology external infection. Several cases are recorded of rapid infection due to a slight external injury. Alexander (8) relates the case of a patient who had inflamed axillary glands two hours after pricking his finger with a needle. Many writers ascribe the frequency of cervical adenitis in children to abrasions in the mouth. A. Jacobi (2) says that cracked lips may admit microbes and thus develop adenitis. Dumenil (9), in an article on this subject, states that as the lymphatic glands of the neck receive the lymphatic vessels coming from the buccal, nasal, and pharyngeal cavities, they are especially liable to receive infectious particles which are carried in the air.

Bearing upon this latter point the writer presents the following cases for consideration:

CASE I.—John B., aged three months, has had eczema capitis et faciei for over a month, and which the mother states has never yielded to treatment. When first seen by me, in January, 1891, the entire scalp and face presented an ugly appearance, the exudations having dried into a dark-brown crust, which covered the entire face and scalp as with a mask or hood. In about a week this condition began to yield to treatment. About three weeks from the time I first saw the child a small swelling was noticed just below the angle of the inferior maxilla. The tumor was firm and hard to the touch, but apparently not painful. In two days its size increased to about that of a pigeon's egg, and the child evinced pain on pressure. Topical and systemic remedies were used without any benefit, as the glands grew rapidly in size and fluctuation was soon plainly noticeable. My colleague, Dr. J. R. Healy, saw the case with me, and we decided that operative measures should be speedily adopted, the child having at this time high fever and tendency to convulsive attacks. We operated on February 21st at 3 P. M., and the child died on the following day at 10 P. M., evidently from shock. The abscess lay largely beneath the sterno-cleido-mastoid muscle, and had burrowed along this muscle down under the clavicle. From its position and the large number of râles in the upper part of that side of the chest, the writer is inclined to think that the pus found some vent in that direction. No autopsy was permitted.

CASE II.—Mary B., aged two years, sister of the patient whose history is given in Case I. About three days after the death of the baby this patient was taken sick with a high fever, preceded by a chill. No apparent cause could be found for the febrile action at first visit. The next day a swelling was noticed at the angle of the inferior maxilla; no evidence of quinsy was found. The tumor did not yield to medical treatment, and an operation was advised. Dr. Healy again assisted me, and an incision along the border of the muscle brought into view an enlarged gland, whose tissues were very much necrosed, and, on passing a director under the muscle, a large quantity of pus was evacuated. The parts were curetted and a drain was introduced, antiseptic precautions being followed throughout, as in the first case.

This patient is improving rapidly. The mother is apparently a healthy woman, whose family history is good. The father has eczema, but gives no specific history; a paternal uncle died of phthisis.

CASE III.—Female, aged two months. This patient was weaned when three weeks old, on account of its mother's breasts being too sore to be nursed at. The mother was treated by the writer for an abscess in the left breast, which it became necessary to lance. About the second week of March, 1891, the child's aunt informed me that its breast was sore and inflamed, but I did not see it. Warm applications of camphorated oil were suggested, but this evidently had no effect, for, when the child was first seen by me two days later, a well-marked abscess had formed about the nipple of the left breast. An incision into the abscess evacuated about four drachms of pus. Other than this trouble the child is healthy and well nourished, and made a rapid recovery.

CASE IV.—J. D., male, aged nineteen months. When first seen the swelling was under the ear and extended over an area about three inches in diameter; it was intensely inflamed and painful, but, as no fluctuating point could be found, a topical application of equal parts of compound iodine and belladonna ointments was applied under hot dressings, and syrup of iodide of iron, in gtt. v doses, given internally. In two days there was an appreciable diminution in the swelling, and it gradually progressed until resolution took place without surgical interference. The mother of this patient is tuberculous, and an older child was just recovering from an attack of phlegmonous tonsillitis.

CASE V.—John S., aged two months. This case has already been reported by the writer in detail (10). The swelling was similar to that in Case IV, but medical treatment was of no avail. As the child presented many pyæmic symptoms, an operation was performed, resulting in a complete recovery. In this case the family history was good, the child was well nourished and healthy otherwise, and an older child in the family had never had any glandular swellings.

It has also been my privilege this winter to see several cases of glandular enlargement in children; in many instances more than one in a family, or in persons living in the same house. The majority of these cases have been controlled by topical applications, and in some instances a tonic was given.

In Cases I and II there seems to have been present that suppurative diathesis spoken of by Henoch. The second child was infected from the baby, probably by kissing it on the mouth—a not infrequent method of inoculation. Case III presents a peculiar condition, inasmuch as the abscess here was at the nipple. The mother of this child had a suppurative mastitis. Did the child nurse any milk containing infective material (the puerperal diathesis of Bouchut), or, knowing that the nipple in a babe is pervious, did the mother, in handling the child, so infect the nipple as to set up a suppurative inflammation in the rich network of lymphatics which is found in the mammary gland? In Case IV the patient may possibly have been infected in a similar manner as in Case II. The elder child had amygdalitis; they both slept with their mother, and she has phthisis, and, according to Daremberg, the mother may have infected both. Case V is apparently another of those cases formerly known as "idiopathic," but undoubtedly due to infection either from a suppurative process or to unhygienic surroundings.

Treatment.—Various topical applications are recommended, ranging from simple hot or cold packs to elaborate formulas. Personal experience has led me to use an ointment composed of equal parts of ung. iodi co. and ung. belladonnæ, generally under moist heat; and to it the majority of these cases have yielded in a few days. Whenever the swellings have been persistent, or the patient's general condition has indicated the need of it, a tonic has been given, composed of syr. ferri iodid. cum syr. hypophos. co., in doses varying with age and condition.

Cod-liver oil is highly spoken of by many writers, but it has been my experience that children either will not take it or, through careless nursing, take it so irregularly that little good is derived from it. Among other topical applications advised is penciling the swellings with lunar caustic; and Alexander (8) recommends the application of compresses wet with a solution of tincture of lobelia, one to three, in water.

When the swellings do not speedily show signs of yielding, early and free incision into the glands is a method apt to benefit the patient in the quickest manner. It is my belief that if an incision had been made earlier in Case I the burrowing could not possibly have occurred, and perhaps a life might have been saved.

We must always bear in mind that pus is rarely absorbed; and in young children the longer we procrastinate in operating, the greater will be the toxæmia and consequent nervous depression, and the more danger there will be to our patients from the operation.

Bibliography.

1. Glandular Diseases, Keating's *Encyclopædia of Diseases of Children.*
2. *New York Medical Journal*, March 7, 1891.
3. *British Medical Journal*, April 7, 1889.
4. *Ctrlbl. für Kinderheilkunde*, No. 2, 1887.
5. *New York Medical Journal*, August 4, 1889.
6. *La semaine médicale*, August 10, 1889.
7. *Annual of the Universal Medical Sciences*, 1889, vol. iii.
8. Wood's *Reference Hand-book*, vol. viii.
9. *Philadelphia Medical Times*, November 27, 1886.
10. Philadelphia *Medical World*, May, 1886.

327 West 126th Street.

A NOTE ON EPILEPSY.

By H. S. DRAYTON, M.D.

In chronic epilepsy the patient shows a want of vital tone. There is an uneasy, excitable manner; restless eyes, with the pupils dilated usually; a relaxed state of the muscles, yet the responses of the reflexes to local irritation are abnormal or exaggerated. As a rule, the mind shows a correspondence with the general nervous tone, being highly excitable and spasmodic in expression. The skin exhibits vascular change, want of complete nutritive support, the color being sallow, patchy, or dark, and suggestive of a sluggish circulation. One can not help thinking of liver disturbance on observing such a skin, and examination usually elicits the fact of biliary derangement.

In discussing the probable state of the brain that precedes the epileptic convulsion, one authority (Dr. Brockway) says: "There is an important vaso-motor center for the brain vessels in the region between the optic thalamus and subthalamic region above and the pyramidal decussation below. The pupils through the irritability of this center undergo contraction, and immediately afterward they relax." An excitement of peripheral nerves that may produce a simultaneous action of the sympathetic, causing an increased flow of blood toward the brain, or that may reduce the arterial pressure in the cerebral vessels, will throw the circulation in the convolutions in the district supplied by those vessels out of balance, and unconsciousness with the epileptic clonus immediately ensue. The attack is doubtless precipitated in most cases by uncompensated blood-pressure, the area in which the brain lesion exists being rendered hyperæsthetic and out of control. Obstruction of the venous blood is consequent upon the disturbance of the arterial circulation, and the accumulation of the former in the capillaries of the medulla is indicated by the reflex contraction of the cervical muscles.

Meynert ventures the opinion that some change in the chemical constitution of the venous blood is the excitant of the symptoms observed in the post-convulsive act. In *petit mal* the patient may have a brief *accès* with unconsciousness for a moment and not fall, the arterial disturbance being in such case confined to the cortex, while the basal ganglia are unaffected and able to continue their functions automatically.

Meynert suggests that those cases in which there is a variety of sensory phenomena show the effect of variable blood-pressure in the convolution areas. I think that with the facts of localization in mind few will take issue on this point. One arterial trunk being engorged by a sudden afflux, and its district of supply rendered hyperæmic, the sensory centers in that area will, as a consequence of the abnormal stimulus, manifest their function to the consciousness for a time. For instance, if it is the region of visual perception, the patient will see a play of color, or luminous objects, etc. If it is the olfactory district, odor of one sort or another will be noted. The speech center indicates excitement by phrases, exclamations, snatches of song being mentally recognized, and so on. Thus on most rational grounds we have an explanation of the peculiar "aura" that this or that epileptic may experience, and this aura, while not identical with the sense functions of the diseased part of the brain, if disease exists, will, as a rule, help toward the diagnosis.

It should be remarked further that the multiplied researches of neurologists with regard to the ætiology of epilepsy show that the great majority of its causes are *extra*-cerebral and the spasm is due to the reflex irritability of an unstable vaso-motor center. The small minority of cases in which the cause is a positive brain lesion have little encouragement for medical treatment aside from possible sedation. Surgery has a record of many excellent diagnoses, but few cures. Of the reflex class, however, we can speak hopefully and maintain that even old cases may be greatly relieved by careful management, in which hygiene, massage, and hypnotism are factors. Intelligent massage of the head for the purpose of promoting the balance of the circulation and so reducing abnormal blood-pressure with its tendency to congestion in any region of the brain I hold to be of high value, and much of my success in treating the cases that have come under my care, I feel assured, has been due mainly to manipulations of the head at the time of an expected crisis. The mental reaction that may be induced through *suggestion* is not to be overlooked as a factor in the procedure of relief, for doubtless at times its influence in abating neural excitement exceeds that of any mechanical treatment.

Correspondence.

LETTER FROM WASHINGTON.

The Recent Meeting of the American Medical Association.—The Affairs of the Association's Journal.—The Association of American Medical Editors.—Receptions.

WASHINGTON, *May 10, 1891.*

THE American Medical Association adjourned on Friday morning after one of the pleasantest meetings in its history. The arrangements for the business of the association were excellent, and there was absolutely no fault-finding on the part of the visitors. The weather was fine, the hotel accommodations were ample, and the meeting was successful from a professional point of view.

In some sections there were too many papers, but this was happily smoothed over by having them read by abstract in most cases, and in the cases of absentees they were read by title. The growing disposition to the multiplication of papers in the larger sections is likely to result in an absolute rule requiring abstracts in all cases.

The question of the permanent place of publication of the *Journal* was decided in the first meeting of the board of trustees in favor of Chicago. This action was taken, I am informed, not because of any change in the opinion of the members of the board, but because they were convinced that the majority of the members of the association earnestly desired to retain the *Journal* in Chicago. They respected that desire, and therefore made a special report to that effect, which was read on the first day of the meeting. There had been excited a very bitter feeling—one so intense as to endanger the continuance of the publication in any other city; so even here, where there is naturally some disappointment, there is a feeling that the trustees acted wisely. There is no doubt, however, that the existing management will be changed at the next session of the board, and among the gentlemen mentioned as likely to be appointed editor are Dr. J. C. Culbertson, of Cincinnati; Dr. C. N. Moyer, of Chicago; and Dr. Frank Woodbury, of Philadelphia. It seems probable that a new business manager also will be appointed. The selection of Detroit as the next place of meeting gives satisfaction.

The editors' dinner at Chamberlin's, on Monday night, was an enjoyable affair. Dr. F. L. Sim, the president of the Association of American Medical Editors, was unavoidably absent on account of sickness, and Dr. Frank Woodbury, the vice-president, called the meeting to order. A telegram of sympathy with Dr. Sim was sent by the association. Dr. Woodbury was elected president for the ensuing year. The banquet was in the best style that Chamberlin could furnish, and Surgeon-General Hamilton was the toast-master. The speeches were fully up to the average.

On Tuesday night the physicians of Washington gave a general reception to the members of the American Medical Association and the ladies of their families. The great parlors of the Arlington were ablaze with the beauty and grace of the Capital, and the visiting members were evidently pleased with the entertainment. The famous Marine Band contributed not a little to the enjoyment of the affair. The Corcoran Art Gallery, the National Museum, and Mr. Waggaman's private gallery were thrown open for the guests. On Thursday evening Surgeon-General Sutherland gave a reception in the Army Medical Museum, and Director Goode received at the National Museum. Ex-Surgeon-General Hammond gave a magnificent reception on Wednesday evening, and the visitors were greatly pleased with the fine interior of the mansion and the hospitality of their host.

THE
NEW YORK MEDICAL JOURNAL,
A Weekly Review of Medicine.
Published by D. APPLETON & CO.
Edited by FRANK P. FOSTER, M. D.

NEW YORK, SATURDAY, MAY 16, 1891.

DISEASE ATTRIBUTED TO CLEANLINESS.

FILTH diseases are common, and now, it appears, cleanliness has departed sufficiently from its proper place next to godliness to afflict poor humanity with ills that are hard to bear. In the *Journal of Cutaneous and Genito-urinary Diseases* Dr. E. Merrill Ricketts calls attention to a skin affection found almost exclusively among society women or others who keep the skin scrupulously clean, especially that of the face. There is redness, with scaliness and considerable burning. Exposure to draughts of hot or cold air increases these symptoms. At times there is much pain, causing loss of sleep.

This disease is found to be due to water, soap, towels, and scrubbing. The epidermis upon the cheek, brow, and eyelids, being thinner than at any other part of the body, is more easily removed. Therefore the frequent application of simple water, even without the use of the towel, means disaster, especially if soap is used. An excess in the exfoliation of the cuticle exposes the papillæ, which are obliged to protect themselves by exuding serum that afterward becomes incrusted. This seals the pores of the skin hermetically until the epithelium is restored. In the frantic effort to secure a good complexion, this scrubbing goes on with a vigor that would wear out shoe leather. A society belle is said to have confessed to having applied Lubin's powder thirteen times within twelve hours, each time after the face had been thoroughly washed with Pears's soap!

Since beauty is largely an affair of complexion—being literally skin-deep, but none the less lovely for all that—it behooves the generous practitioner to come to the rescue and save the skins of the high-minded washed. Instead of soap, Dr. Ricketts suggests the use of good olive oil, applied two or three times a day with some soft silk or linen fabric. What is called olive oil—really sweet or cotton-seed oil, or essence of lard—is not the thing to use, but that pure and bland article that southern Frenchmen make in such perfection. It is difficult to secure, but those that seek it can find it.

The ancient Greeks knew soap, but among them it was used for renovating fabrics, especially those of wool, but not for cleansing the skin. Chevreuil published his researches in 1813 in regard to the process of saponification, and from this date the chemistry of soap-making has made rapid advancement. Now, soap would not be so injurious if it was perfectly pure, but a perfectly pure soap is the substance of things hoped for. Lime, gypsum, heavy spar, stearite, and pipe-clay are some of the chief adulterations, and these things are unfavorable to a milk-and-roses or peaches-and-cream complexion. The happy possessor of a delicate skin must suffer to be beautiful—it will pay—and forego the luxury of too much water and the accessories of the bath. The delicate skin must be petted, not combated as though it were an enemy. Gentle measures here, as in the sterner affairs of life, bring about harmony and satisfaction. The admirers of coral lips and rosy cheeks—there are many in the profession—have a new gospel to preach, and that is temperance in the matter of cleanliness.

MINOR PARAGRAPHS.

TOBACCO IN THE TREATMENT OF DIPHTHERIA.

Dr. S. Schwitzer, in the *Province médicale*, says that, from observation of persons who are habitual chewers of tobacco, and noting their immunity from local infectious diseases of the throat, he was led to employ it in the treatment of diphtheria. It was used in the form of an alcoholic extract and an infusion. In small children the extract was painted on the suspected diphtheritic patches once in twenty-four hours, and for adults the infusion was used as a gargle. The author has seen no bad results follow the use of the tobacco, even in very young infants. He is satisfied of the favorable therapeutical action of this remedy, as it has been employed by him in sixty cases of diphtheria, and in but seven of this number have the results been unsatisfactory. As a gargle, the author recommends it as being far superior to any other in this disease. To make the extract, equal parts of tobacco-juice and alcohol are used. At the time of the application, fifty parts of the extract are diluted with from thirty-five to forty parts of alcohol. For the infusion, two parts of tobacco leaves are used with two hundred of boiling water.

THE CAUSE OF SLEEP.

The *American Journal of the Medical Sciences* for November, 1890, quoting from Mauthner's paper on The Physiology and Pathology of Sleep, gives this as the author's theory: Sleep is to be considered as an evidence of tiring of the central gray matter of the ventricles. Because of the temporary suspension of function in this portion of the brain, both the centripetal and the centrifugal nervous paths communicating with the cortex are cut off. Consequently sensory impressions are not conducted to consciousness, although the sensory organs on the one hand and the cells of the cerebral cortex on the other have not suspended their function. In the same way the motor cells are normally innervated in dreams, but, on account of interruption in the conduction along the central gray cavities, no motion is produced, in spite of the fact that the normal power of conduction in peripheral nerves remains. Finally, the focal symptom of ocular paralysis is present, for the falling of the eyelids in those becoming sleepy is a true ptosis, while the simultaneous occurrence of double vision indicates a marked disturbance of innervation in the external ocular muscles.

CHILD LIFE INSURANCE.

During the past few years this subject has met with considerable discussion in England, for abuses under the system had become so great that decided restrictive measures were required. The original design of such insurance, to enable the poor to furnish decent burial for their children, was a good one, but the opportunities for abuse are very great. According to the *British Medical Journal*, a bill for Scotland has been introduced into Parliament designed "to impose a check on the abuse of child life insurance." It provides for compulsory registration of every such insurance and of every claim under it. The record is to contain a number of particulars concerning the child, and is to be open to public inspection. Though little has been said upon the subject in this country, it is not impossible that the necessity may some time appear for careful supervision over such insurance, for abuses will certainly follow its general adoption.

PARALYSIS OF THE FACIAL AND AUDITORY NERVES DUE TO HÆMORRHAGE INTO THE EAR.

In the *British Medical Journal* for October 11, 1890, such a case is reported. The patient, sixty years old, though otherwise well, often complained of vertigo. During an attack he fell on the edge of a curbstone, making a V-shaped cut over the occipital protuberance. There was profuse hæmorrhage from the left ear, and complete paralysis of the left side of the face ensued. A watch was only faintly heard on the left side. There was tinnitus aurium on this side. In three months the man's condition was practically normal. The paralysis was evidently due to hæmorrhage into the internal ear and the Falloppian canal.

MUSCÆ VOLITANTES.

This annoying phenomenon, so frequent in myopia and in conditions affecting the inner coats of the eye, is happily relieved, says the *Gazette des hôpitaux* for November 6, 1890, by the following treatment, that must be persisted in for some time. It consists in the daily instillation into the eyes of a solution of one part of potassium iodide in two hundred parts of distilled water.

ITEMS, ETC.

The Missouri State Medical Society's Meeting occurs on the 19th, 20th, and 21st inst., and not on the 13th, 14th, and 15th, as erroneously stated in our last issue.

The Philadelphia Polyclinic.—It is announced that the hospital has been thrown open to patients to be treated by their own physicians, who may not be on the staff. This is a move characteristic of the liberal manner in which the Polyclinic is managed.

The Mutter Lectures.—The seventh, eighth, ninth, and tenth lectures of the course in surgical pathology were given in the hall of the College of Physicians, of Philadelphia, on the evenings of the 12th, 13th, 14th, and 15th inst., by Dr. Roswell Park, of Buffalo.

The Alumni Association of Bellevue Hospital held its second annual dinner on Tuesday evening, the 12th inst., at the Hotel Brunswick. The attendance was large and representative of many staffs, one being that of 1849. Dr. Charles Phelps presided. The speeches were unusually bright.

The Jefferson Medical College of Philadelphia.—It is announced that Dr. Hobart Amory Hare has been appointed to succeed Professor Bartholow in the chair of Materia Medica and Therapeutics. It is said that Dr. Hare will soon retire from the editorship of the *Medical News*.

The Death of Dr. Richard Gundry, medical superintendent of the State Hospital for the Insane at Spring Grove, Maryland, took place on April 23d. He was sixty-two years old. He was a native of England, but came to America when about sixteen years of age. He was graduated from the Harvard Medical School in 1851. From 1854 his work was devoted to the care of the insane, especially at the asylums at Columbus, Dayton, and Athens in Ohio and at Catonsville, Maryland. He was professor of materia medica, therapeutics, and psychology at the College of Physicians and Surgeons of Baltimore.

The Death of General John J. Milhau, formerly of the medical corps of the army, took place at his home, in New York, on Friday, the 8th inst. He was in his sixty-third year. He was a graduate of the College of Physicians and Surgeons, of the class of 1850. After serving on the house staff of Bellevue Hospital, he entered the medical corps of the army, and served with distinction until 1876. He was widely known and highly esteemed.

Changes of Address.—Dr. Edwin B. Cragin, to No. 62 West Fiftieth Street; Dr. R. C. Van Wyck, from Poughkeepsie to Hopewell Junction, N. Y.

Army Intelligence.—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from April 26 to May 9, 1891:*

McKee, James C., Lieutenant-Colonel and Surgeon, having been found incapacitated for active service by an army retiring-board, is, by direction of the Secretary of War, relieved from further duty as attending surgeon and examiner of recruits at Philadelphia, Pa., and will proceed to his home and report by letter to the Adjutant-General of the Army. Par. 3, S. O. 96, A. G. O., Washington, D. C., April 28, 1891.

Clarke, Joseph T., First Lieutenant and Assistant Surgeon, is relieved from duty at Fort Riley, Kansas, and will report in person to the commanding officer, Camp Poplar River, Mont., for duty at that station, relieving First Lieutenant Jefferson D. Poindexter, Assistant Surgeon. First Lieutenant Poindexter, on being relieved by Lieutenant Clarke, will report in person to the commanding officer, Fort Niobrara, Nebraska, for duty at that post. Par. 14, S. O. 102, A. G. O., May 5, 1891.

McCaw, Walter D., Captain and Assistant Surgeon, is relieved from duty at Fort McPherson, Ga., and will report in person to the commanding officer, Camp Pilot Butte, Wyoming, for duty at that post, relieving Captain George E. Bushnell, Assistant Surgeon. Captain Bushnell, on being relieved by Captain McCaw, will report in person to the commanding officer, Fort McKinney, Wyoming, for duty at that post. Par. 14, S. O. 102, A. G. O., May 5, 1891.

Kendall, William P., Captain and Assistant Surgeon, is relieved from duty at Port D. A. Russell, Wyoming, and will report in person to the commanding officer, Fort Douglass, Utah Territory, for duty at that post. Par. 14, S. O. 102, A. G. O., May 5, 1891.

Edie, Guy L., Captain and Assistant Surgeon, is relieved from duty at Fort Douglass, Utah Territory, and will report in person to the commanding officer, Fort Niobrara, Nebraska, for duty at that post, relieving Major Timothy E. Wilcox, Surgeon. Major Wilcox, on being relieved by Captain Edie, will report in person to the commanding officer, Fort Huachuca, Arizona Territory, for duty at that post. Par. 14, S. O. 102, A. G. O., May 5, 1891.

Cabell, Julian M., First Lieutenant and Assistant Surgeon, is relieved from duty at Fort Niobrara, Nebraska, and will report in person to the commanding officer, Fort Buford, North Dakota, for duty at that post, relieving Major Valery Havard, Surgeon. Major Havard, on being relieved by Lieutenant Cabell, will report in person to the commanding officer, Fort D. A. Russell, Wyoming, for duty at that post. Par. 14, S. O. 102, A. G. O., May 5, 1891.

Girard, Joseph B., Major and Surgeon, is relieved from duty at Alcatraz Island, Cal., and will report in person to the commanding officer, Benicia Barracks, Cal., for duty as post surgeon at that post, and attending surgeon at Benicia Arsenal, Cal., relieving Major John H. Janeway, Surgeon. Major Janeway, on being relieved by Major Girard, will repair to Philadelphia, Pa., and assume the duties of attending surgeon and of examiner of recruits in that city, and, in addition to his duties in Philadelphia, will perform the duties of post surgeon, Frankfort Arsenal, Pa. Par. 14, S. O. 102, A. G. O., May 5, 1891.

La Garde, Louis A., Captain and Assistant Surgeon, is relieved from duty at Fort Assinniboine, Mont., and will report in person to the commanding officer, Fort McHenry, Md., for duty at that post, relieving Major Charles B. Byrne, Surgeon. Major Byrne, on being relieved by Captain La Garde, will report in person to the commanding officer, Fort Assinniboine, Mont., for duty at that post. Par. 14, S. O. 102, A. G. O., May 5, 1891.

By direction of the Acting Secretary of War, Par. 5, S. O. 24, January 29, 1891, from this office, granting Patzki, Julius H., Major and Surgeon, six months' leave of absence, is so amended as to grant said leave on surgeon's certificate of disability. Par. 15, S. O. 99, A. G. O., May 1, 1891.

Naval Intelligence.—*Official List of Changes in the Medical Corps of the United States Navy for the two weeks ending May 9, 1891:*

Lung, George A., Assistant Surgeon. Granted two months' leave of absence.

Hoehling, A. A., Medical Inspector. Detached from Navy Yard, League Island, and waiting orders.

Jones, W. H., Surgeon. Ordered to Navy Yard, League Island.

Norton, O. D., Passed Assistant Surgeon. Detached from Naval Hospital, Chelsea, Mass., and waiting orders.

Cordeiro, F. J. B., Passed Assistant Surgeon. Ordered to Naval Hospital, Chelsea, Mass.

Bradley, G. P., Surgeon. Detached from Mohican and placed on waiting orders.

Walton, T. C., Medical Inspector; Bright, George A., Surgeon; and Steele, J. M., Passed Assistant Surgeon. Ordered to Naval Academy to examine applicants physically for admission.

Dickson, S. H., Surgeon. Ordered to the Constellation.

Leach, Philip, Passed Assistant Surgeon. Detached from Naval Academy and ordered to the Constellation.

Rush, W. H., Passed Assistant Surgeon. Detached from the Saratoga and to await duty to sea.

Atlee, L. W., Passed Assistant Surgeon. Detached from Navy Yard, League Island, and ordered to the Saratoga.

Brownell, C. D. W., Assistant Surgeon. Ordered to Navy Yard, League Island.

Marine-Hospital Service.—*Official List of the Changes of Stations and Duties of Medical Officers of the United States Marine-Hospital Service for the two weeks ending May 2, 1891:*

Austin, H. W., Surgeon. Detailed as member of Board of Examiners, Marine-Hospital Service. April 21, 1891. Detailed as chairman of Board for Physical Examination of Officers and Candidates, Revenue Marine Service. April 29, 1891.

Godfrey, John, Surgeon. Detail as member of Board of Examiners revoked. April 21, 1891.

Irwin, Fairfax, Surgeon. Detailed as recorder of Board for Physical Examination of Officers and Candidates, Revenue Marine Service. April 29, 1891.

Carrington, P. M., Passed Assistant Surgeon. To proceed to Fernandina and Jacksonville, Fla., as Inspector. May 1, 1891.

Stimpson, W. G., Assistant Surgeon. When relieved, to proceed to Savannah, Ga., for temporary duty. May 2, 1891.

(*Omitted from previous list.*)

Brown, B. W., Assistant Surgeon. Detailed as medical officer, Revenue Steamer Rush, during summer cruise. April 14, 1891.

Society Meetings for the Coming Week:

Monday, *May 18th:* New York County Medical Association; New York Academy of Medicine (Section in Ophthalmology and Otology); Hartford, Conn., Medical Society; Chicago Medical Society.

Tuesday, *May 19th:* Missouri State Medical Society (first day); Illinois State Medical Society (first day—Springfield); New York Academy of Medicine (Section in Theory and Practice of Medicine); New York Obstetrical Society (private); Ogdensburgh Medical Association; Medical Societies of the Counties of Kings and St. Lawrence (annual—New York); Hampden, Mass., District Medical Society (annual—Springfield); Baltimore Academy of Medicine.

Wednesday, *May 20th:* West Virginia State Medical Society (first day—Fairmont); Missouri State Medical Society (second day); Illinois State Medical Society (second day); New York Academy of Medicine (Section in Public Health and Hygiene); Northwestern Medical and Surgical Society of New York (private); Medico-legal Society; Harlem Medical Association of the City of New York; New Jersey Academy of Medicine (Newark).

Thursday, *May 21st:* Missouri State Medical Society (third day); West Virginia State Medical Society (second day); Illinois State Medical Society (third day); New York Academy of Medicine; Brooklyn Surgical Society; Jenkins Medical Society of Yonkers, N. Y. (annual); New Bedford, Mass., Society for Medical Improvement (private).

Friday, *May 22d:* West Virginia State Medical Society) third day); New York Society of German Physicians; Yorkville Medical Association (private); New York Clinical Society (private); Philadelphia Clinical Society; Philadelphia Laryngological Society.

Saturday, *May 23d:* New York Medical and Surgical Society (private).

Proceedings of Societies.

NEW YORK ACADEMY OF MEDICINE.

Meeting of April 16, 1891.

The President, Dr. Alfred L. Loomis, in the Chair.

Is Embryotomy of the Living Fœtus Justifiable?—A paper by Dr. Egbert H. Grandin opened the discussion on this question. He thought that, in view of the great progress in abdominal surgery during the past decade, the time had come when the question of the justifiability of fœticide should receive earnest consideration. Ten years ago, when the mortality from the Cæsarean section was forty per cent. on an average, embryotomy had been a beneficent necessity. To-day, however, when sepsis had been practically banished as an after-complication of abdominal surgery, when we knew how to effectively suture the uterine wound so as to guard against gaping and internal hæmorrhage, when the fear of opening the peritoneal cavity had been proved groundless, the time was at hand when the physician had the right to question if, under all conditions, he was called upon to mutilate the living fœtus. On moral grounds the speaker would not discuss the question. Theologians could not decide the point for obstetricians. If the latter could once prove that the risk to the woman from the Cæsarean section was no greater than from embryotomy, their duty as well as their pleasure would be to save two lives instead of, as in the past, destroying the lesser. If our data concerning the Cæsarean section continued to improve over those of the present time, the choice of operation would lie purely with the physician and not at all with the laity, who would always claim precedence for embryotomy over the Cæsarean section. One important factor lacking toward the desired end was more thorough education of the student in pelvimetry. The Cæsarean section should be *elected*, even as an ovariotomy or a hysterectomy was. The operation should never be left as a *dernier ressort.* A difficult embryotomy subjected the woman to as great risks as the *elective* Cæsarean section. Shock was the element to be feared chiefly after both operations, and the speaker had witnessed greater shock after embryotomy than after the Cæsarean section. We must learn, further, not to rest our conclusions on the statistics at present at our disposal. These were very fallible, seeing that they included many instances where the section was not elected. The record of individual operators from the elective Cæsarean section gave a fair estimate of the results obtainable in the future. Thus, certain German operators had a mortality as low as six per cent. Hertsch had reported seven cases with no deaths; Cameron, ten cases with one death. At the New York Maternity Hospital the record for the past two years was four elective sections, all successful as regarded both the mothers and the children, while during the same period there had been four craniotomies with one death. The speaker trusted, therefore, that surgeons to maternity hospitals would with one accord cease doing embryotomy, and perform the Cæsarean section under the relative as well as the absolute indication, deliberately electing it. His belief was that thus, in the near future, the maternal mortality could be lowered to at least five per cent., while fully ninety-five per cent. of the children could be saved. These results would pave the way for the election of the Cæsarean section in private practice.

Dr. H. J. Garrigues thought that the statistics by no means warranted the assumption that the Cæsarean section, even with the improvements of modern surgical technique, was an operation of less danger than craniotomy. The chances of saving the mother were five times as great in craniotomy. The only measure that seemed to him to offer a pretty good chance of success to the mother was the induction of premature labor, and where the case was seen in time he thought that this was the proper thing to do.

Dr. R. A. Murray was in favor of elective Cæsarean section. When the deformity of the pelvis was such that no other operation could be done, the question of previous unsuccessful results was not to be considered. In the hands of the ordinary operator he thought that the Cæsarean section would probably yield as good results as embryotomy.

Dr. W. T. Lusk did not admit that the dangers of craniotomy were of so grave a character as those of the Cæsarean section, and he thought that it was an error to allow the idea of an equality in the dangers of the two operations to be promulgated. In large hospitals it was true that the results of the section had been good, but in the same hospitals there had been no deaths from craniotomy. While he disliked extremely to do a craniotomy, and would always avoid it if he could, his experience with the Cæsarean section had been such that he would do the former operation in preference, other things being equal.

Dr. C. Jewett, of Brooklyn, would perform embryotomy on the living fœtus: 1. As an alternative of other means of delivery by the natural passages in certain rare emergencies for the rapid termination of the labor in the interests of the mother. 2. As an alternative of the Cæsarean section: (*a*) When the mother was exhausted or her condition otherwise unfavorable for the abdominal operation; (*b*) when the conditions were not favorable for the child; (*c*) in disproportion between the pelvis and the fœtal head, but with a conjugate of from two inches and three quarters to three inches or *more*, provided the mother so elected, after a full knowledge of the facts.

The life-saving capacity of the modern Cæsarean section for the mothers could not be estimated at more than from seventy-five to eighty per cent. The average maternal mortality in embryotomy was about ten per cent., and was less in proportion as the pelvis was more roomy.

The choice of operation must take into account the skill and experience of the operator in abdominal surgery. The Cæsarean section was an operation for the expert, embryotomy for the general practitioner inexperienced in abdominal section. It was not true that the two operations were equally within the skill of every practitioner. Every physician became more or less familiar with the operating field of the obstetrician. Few had any practical knowledge of the surgery of the abdomen. The rights of the child must not be ignored, but the rights of the mother must be paramount.

SECTION IN GENERAL SURGERY.

Meeting of April 13, 1891.

Dr. William T. Bull in the Chair.

Lumbar Nephrotomy.—Dr. Robert Abbe presented a patient who, five years before, had begun to suffer from renal colic and hæmorrhage. This condition had become continuous during the last two years. Six weeks since, the patient had come to him for advice, and was at that time suffering from hæmaturia. Examination with the cystoscope distinctly demonstrated that the bloody urine came from the right ureter. Nephrotomy was accordingly performed. The kidney was found perfectly normal on palpation. It was stripped free of the surrounding fat and then punctured with a needle upon the line of its curvature. Fifteen punctures were made. At only one of them was the operator able to feel anything apparently abnormal. It seemed as if the needle struck something gritty. An incision was then made, enabling the speaker to pass his finger well into the pelvis of the kidney, but there no stone was found. The finger had only come in contact with the gritty point before mentioned, which might have corresponded in feeling to a papilla of one of the pyramids. The wound was accordingly closed. There was no trouble resulting from the operation and no escape of urine from the wound. The interest seemed to lie in the fact that since the operation the patient had remained free from pain and there had been, so far, no return of the hæmaturia.

Dr. R. F. Weir said that there was a class of lesion sometimes found in the kidney which, though trifling enough in itself, caused a tendency to bleeding from the organ. It was at present too soon to form any conclusion as to whether a cure had been effected in the present case or whether the diseased condition was of the class he referred to.

The Treatment of Hernia by means of the Hank Truss.—Dr. S. E. Milliken, in a paper on this subject, referred to the danger of producing excoriation or at times severe sloughing with the ordinary trusses of the shops. If this condition was brought about it made the treatment of hernia in young and delicate children exceedingly tedious and occasionally impossible. The hank truss, of which the speaker thought too little was known, was constructed from a loop of zephyr of the best quality containing from twenty-five to thirty strands. It was made of sufficient length to encircle the pelvis between the anterior superior spinous process and the trochanter major, with enough left to make a perineal strap. On one end a double tape was attached, corresponding to the affected side, and passed through the loop coming from the opposite side. Considerable care should be given to the adjustment of the loop. The method might be described as follows: With the index finger of the left hand passed through the loop and allowed to rest perpendicularly on the median line of the abdomen, ordinary tension should be made. The tape was now passed through the loop and the additional force necessary to bring the point of the crossing to the inguinal region would usually give sufficient support to retain the hernia. The free or tape end was then carried under the thigh of the affected side and tied to the band going around the pelvis. Where a double hernia existed, the second hank should be applied irrespective of the first. The truss might be worn a week or ten days without changing if the proper use of absorbents was made, and the best of these was subiodide of bismuth. This powder might be renewed daily after giving a sponge bath. During the first few weeks no change of the apparatus should be attempted by the mother or nurse, for only after considerable technique had been acquired could protrusion be prevented, especially when dealing with a restless child. When the truss was worn as he had explained, and was not changed more than once a week, and no protrusion was allowed to take place, at the end of two months it might, as a rule, and in the absence of contra-indications, be discontinued. Only one case of recurrence had come under the speaker's notice after cure by this truss, and in this the hernia had recurred only on one side, whereas a double hernia had formerly existed. He was able to report some two hundred and sixty-eight cases treated by this method, and to present to the meeting a large number of patients in various stages of the process of treatment. He had concluded that among the advantages of the hank truss were: 1. Easiness of manufacture, no delay being encountered in the beginning of treatment. 2. Absence of spring pressure or severe elastic pressure and a lessened liability to produce excoriation or sloughing. 3. The pressure could be regulated without removing the truss. 4. Less weakening of the tendinous and muscular structures, which so frequently followed the use of ordinary trusses. 5. There was no danger of adenitis from pressure on the inguinal glands.

Dr. Abbe said he had at one time made an unsuccessful attempt to make use of this truss and had abandoned it, as it had seemed to cause pain. From what he had seen of its application in the cases presented, however, he thought it was a most seductive form of treatment, and he should certainly take it up again.

Dr. W. B. De Garmo desired to protest against a return to what appeared to him a relic of the past. For the practitioner located where he could not procure a suitable truss at once, this was a very convenient bandage for temporary use, but he should not consider himself justified in leaving it on as a permanent appliance. At this day, when we had many good trusses that could be worn by the most delicate infant, if properly applied, he felt that we had no excuse for using something that was neither cleanly nor efficient. It was true that many children were readily cured, even by the crudest appliance, but it was equally true that many others were allowed to go by the curable age by the use of a "makeshift" of this kind. A well-known institution where these bandages had been applied had recently furnished his clinic at the Post-graduate Medical School with abundant evidence of the unreliability of this so-called hank truss. According to the histories given, these children were all worse when they came to the clinic than when the bandage had been applied, and in most instances the yarn was in a filthy condition. Cleanliness, simplicity, and durability seemed to him the essential points in selecting trusses for infants. All these features were combined in the rubber and celluloid covered truss, with which the country was well supplied. These, fitted by the lead tape diagram method, appeared to leave little to be desired in the way of appliances of this kind. Nine tenths of all hernias occurring in children under five years of age could be cured by a suitable truss; this implied the proper fitting of the truss and the keeping of the patient under observation until he was cured. If mechanical treatment failed, he should consider an operation justifiable.

The Curative Effect of Operations per se.—This was the title of a paper read by Dr. J. M. White, of Philadelphia, in which he considered an elaborately compiled aggregation of the reported experiences of others, supplemented by his own, as to the palpable or possible evidence, immediate or remote, of the relief of symptoms, or the subsidence of concrete indications of pathological conditions, resulting from surgical interference, stopping short, however, of radical procedures. There was no lack of both startling and amusing data upon which to establish a theory that operations *per se* were sometimes productive of curative results, even where investigation could determine no macroscopic or microscopic physiological disturbance to account for the existing symptoms. The acceptance of this evidence, of course, landed the investigator upon that *terra incognita* in which such ambiguous phrases as hysterical manifestations, psychic influences, and reflex phenomena were the only terms left for the description of an unknown quantity.

Dr. Abbe was of the opinion that certain growths might be the result of mental influences producing changes in the circulation, disturbance to the physiological equilibrium, and ultimately a pathological product. When an exploratory operation was of benefit in these cases, it was because a change was brought about in the tissues by the manipulation of the lymphatics, the nerve filaments, and the vascular structure of the tumor itself. He thought, however, that the acceptance of the theory might lead to mischievous results from reckless operating for experimental purposes. Such cases should only be undertaken by those able to accurately weigh the chances of benefit to the patients. He did not believe that many instances of cure would be recorded.

Dr. H. J. Boldt did not believe that any malignant disease of the abdomen would disappear upon simply opening the region. In cases in which this result had been affirmed he considered the diagnosis had been incorrect.

Dr. Weir pointed out the fact that the tumors which disappeared after surgical interference were generally situated in the abdominal cavity. He had never seen a tumor in the leg disappear under like conditions. In the abdominal cavity it must be borne in mind that there was an immense sympathetic nervous system. The interference with such a region might set up such disturbance as would bring about changes in the circulation, and thus influence the nutrition of any existing neoplasm. He was, however, very skeptical as to the curative effect of operations *per se.*

The further opinions expressed were in the same vein. It was conceded that psychic influences might be potent, but that they could not at present be demonstrated. For the most part the benefits which were derived from operations *per se* were due to retrograde metamorphoses in existing growths or to irritative disturbances of existing conditions of malnutrition.

SECTION IN GENERAL MEDICINE.

Meeting of April 21, 1891.

Dr. R. C. M. Page in the Chair.

American Childhood from a Medical Standpoint.—Dr. Henry Ling Taylor read a paper with this title. The human organism, he said, was pre-eminent in its marvelous adaptability to the most varied surroundings and conditions of life. It had complex mechanisms for the reception, conveyance, storage, modification, and discharge of the showers of impressions constantly received through the sense organs and through the nerve endings in the skin, membranes, and tissues. We recognized that different individuals and races reacted somewhat differently; they had inherited or acquired special characteristics of mind and body, probably largely due to habits evoked by special surroundings and ingrained by frequent repetitions, either in themselves or in their ancestors. Which way did life in New York push the children? We knew that the city children with whom the physician was brought in contact got too little light and air, did not take enough of the right kind of exercise, were often overfed or underfed, lived in houses that were kept too hot, were often urged too much in their studies and especially in their emotions, and frequently, with shortened childhood, became little men and women before emerging from pinafores and knickerbockers. The children had, as a rule, the following characteristics: Weak ankles, strong legs, weak waists, shallow and inelastic chests, and weak shoulders and arms. The pale countenance and cold extremities gave evidence of a faulty circulation. The feelings and will might be intense or flabby, but in either case betrayed the lack of discipline. There was precocity in knowledge of people and social relations, and there was the darkest ignorance with regard to most natural objects and processes.

If the parents were in easy circumstances, the children were, as a rule, produced with difficulty from an overtaxed and undernourished stock, not from the superabundant vitality of robust natures. The mother rarely had vitality left to nurse her infant, and it was brought up on some substitute, which at best was only a makeshift. Whatever modern life had done for women, it did not seem to have prepared them for the intelligent care of their offspring. If our city life was so artificial that we required gymnasia, field sports, and outings to keep a decent physical equilibrium, we still needed to give some attention to vascular gymnastics, and the culture and development of the unstriped fibers which played so fundamental a part in our vital economy, by placing some reliance on the adjustive and resisting powers, and by a systematic and judicious exposure of the skin to cold water, air, and the vicissitudes of weather. The city child, instead of soil with its diversified coverings, had hard and mostly level floors or pavements; instead of grateful greenish, bluish, or brownish tints, the patchwork surface of our houses and streets; and instead of restful silence or simple, harmonious sounds, the irritating jar of complicated noises. Young city children of the primary-school classes had the most extraordinarily distorted ideas about the commonest natural objects, and much of this mass of misinformation remained in adult life. On the other hand, they were abnormally precocious in their knowledge of men and social relations and in general "knowingness." That the modern methods of school education produced many bad results was seen in the nervous condition of many children, in their headaches and ocular and other troubles. Nature was a good schoolmistress, and her lessons were the fundamental ones, no matter how much we might supplement them at school or university. The infant was learning his lesson when he was kicking out his legs, waving his arms, or bumping his head, the child playing tag or batting ball, or the youth working with his carpenter tools, or riding a bicycle, just as truly, perhaps more truly, than the university student burning midnight oil over Greek and calculus. Nature was never systematic in the school sense, and, however much we might systematize, we must at the same time cultivate our powers and round our individuality by keeping in close touch with so much of nature as lay within our horizon in a restful, informal way. Family life was perhaps the most important factor of all in the child's development, physical as well as mental and moral. The system of flat housekeeping prevented our women from being good housewives, and the high-pressure work for the mighty dollar rendered the men anything but agreeable fathers; so that children really saw but little of what ought to go to make up a home for their training. Much of what had been said applied to certain classes in certain localities, and it might be thought that the picture was an exaggerated one, but it was maintained that the physique of the children that were now growing up under our eyes was not, on the whole, satisfactory, and that it was a difficult matter to bring up wholesome, hearty children in New York. If this was so, it was well to recognize the fact.

The Chairman thought that the children in the cities were subjected to dangers which were overlooked. One was that their bowels were constantly neglected, and another was that they were allowed to go about with wet or damp shoes.

Dr. F. A. Castle argued that if attention to the bowels was neglected by children, it was the result of the present bad arrangement as to school-hours. Social usages had gradually pushed the hours for meals—that is to say, for dinner—later and later in the day, but the nine o'clock school-hour never changed, and children were often rushed off to school without adequate food or any other attention to natural requirements. He also deprecated the whole system adopted in the primary schools. All that the children did was to shout some nonsense in concert. The schools were simply bedlams; the system adopted not only served no purpose, but actually did damage to those who had to undergo it.

Dr. C. E. Quinby thought that to meet the requirements of the age, and especially of city life, it was necessary to turn out specialized men and women; and, this being admitted, there was a tremendous advantage in city life, which would put a child at twelve years of age where a person of twenty would not be in the country.

Fel Bovis Inspissatum as a Therapeutic Agent.—Dr. W. H. Porter read a paper on this subject. He made a most emphatic appeal to his hearers on behalf of what he had decided to be the great therapeutic utility of fel bovis inspissatum in all diseases which had for their source, or were under the influence of, pathological conditions of the digestive economy. He stated that the conclusions which he was urging had been arrived at after ten years of persistent use and careful observation of the drug. Adequate confirmation of the speaker's view of the matter was given by other observers, special emphasis being laid on the advantages accruing from administration of the ox-gall throughout cases of typhoid fever.

The Value of Auscultatory Percussion as a Method of Diagnosis.—This was the title of a paper by Dr. F. W. Jackson. (To be published.)

Dr. J. West Roosevelt complimented the author on the integrity of the work done and the conclusions drawn so far. He thought that the paper ought to show the value of auscultatory percussion and serve to make the method more popular. He was, however, sorry to hear that throughout the series of observations the nipple had been used as a landmark. Its position upon the chest was not constant, relatively, in any given number of subjects, and it was an utterly unreliable factor in measurements. The mid-clavicular line was very much to be preferred.

SECTION IN OBSTETRICS AND GYNÆCOLOGY.

Meeting of April 23, 1891.

Dr. Egbert H. Grandin in the Chair.

Birth of a Viable Child at Six Months and a Half.—Dr. H. Collyer reported a case of this nature. The woman was thirty-three years of age, had been married eleven years, and had had four children at term and one miscarriage. She had been under the speaker's care for chronic pelvic peritonitis, which fact had given him opportunities for observation in the case that he might not otherwise have had. On July 5, 1890, she menstruated as usual. On August 6th there was a scanty flow for three days. During the third week in August changes were noticed in the uterus characteristic of the earlier weeks of pregnancy. The woman stated that conception must have occurred on July 13th, denying its possibility before that date. On January 4, 1891, while she was working a sewing-machine, there was sudden and profuse hæmorrhage. All attempts to prevent labor were futile, and on February 3d she was delivered of a small male child weighing two pounds and two ounces. The child cried at once, and, wrapping it up warmly, the speaker waited for some five minutes till pulsation in the cord had ceased before separating the child from its mother. The placenta gave some trouble, and there was found attached to it an independent lobule. The bones of the child's skull were soft and overlapping. The testes had not descended, and the finger nails were only just showing. The infant was wrapped in wool and put into a basket, which was placed near a fire kept continually burning. At first the child was fed with milk and water from a spoon every two hours, and subsequently from the breast. It had since continued to thrive in every respect. The date at which the child was born and the general condition of its development would indicate the period of gestation as six months and a half.

The Association of Rectal and Pelvic Disease in Women.—Dr. R. A. Murray read a paper with this title. When the anatomical connection between the genital organs and the rectum was considered, it was not strange, he said, that many diseased conditions of the one set of organs reacted on the other, and, further, that they sometimes had a causative relation. The vascular supply of the uterus, ovaries, and tubes was indirectly connected with the lower third of the rectum. The veins on the left side emptying into the left renal vein, the varicose condition of these veins was oftentimes the cause of symptoms of ovarian hyperæmia, and even of acute oophoritis. Constipation was not absolutely a disease confined to the rectum, but in a large proportion of cases it was a symptom which, if not the cause, was surely a concomitant of uterine trouble. The inflammatory diseases of the uterus and its annexa, tube, ovary, and ligaments, were, of all uterine diseases, by far the most frequently seen by the specialist. The first symptom present in almost every case was pain in the left side, over the ovary; next, flatulence and constipation. When the anatomical relations of the tissues in these parts were remembered, the cause of this condition of things was easily accounted for. In chronic displacements of the uterus—retroversion or retroflexion—the long-continued pressure of habitual constipation obstructed the circulation to such an extent that hæmorrhoids resulted, and the parametritis generally fixed the uterus on the rectum so that the use of cathartics only excited the inflammatory symptoms and made the patients afraid to take the remedies. In such cases the uterine symptoms were most prominent, and no relief was experienced until the communication between the portal and genital circulations was made freer. This was to be done first by correcting the displacement, secondly by relieving the constipation. For the constipation, enemata were to be preferred. Another result of chronic constipation was pouching of the lower third of the rectum. This condition was found frequently in virgins and gave rise to pain in the back, discomfort in standing, and the sensation of dragging and fullness, with a feeling that the parts would fall, due to the distention and varicosity of the vaginal and uterine veins caused by the formation of proctocele, which pressed the vagina forward. The author had seen fissures in the vaginal entrance which were painful and intractable, and which could only be cured by relieving the constipated habit and correcting the proctocele. In chronic retroversion, where the uterus was pressing on the rectum, and in chronic fixation of the uterus in any position, from pelvic peritonitis, the author had found that with constipation, and even without it, many patients complained of a discharge of glairy mucus from the bowels, with a sensation of burning during and after the act of defecation. This mucus was often stringy and in links. Following this, there might be a bloody discharge, particularly at the menstrual period.

On the relief of this catarrhal proctitis by aseptic injections of boric acid or mild astringents, the complaints of pelvic pain were often very materially lessened, although the uterine disease was not cured. Hæmorrhoids and painful fissures of the anus were frequently associated with uterine disease, either inflammatory in nature or due to the pressure of tumors. Where hæmorrhoids were due to uterine pressure, the reposition of the displaced organ was called for. Where this could not be done, much might be accomplished for the patient by keeping the bowels regular and relieving the pelvic circulation by rest in bed. The vaginal douche was indicated. The author had found benefit from the reduction of the hæmorrhoids after each action of the bowels, by pressure, while the patient was in the recumbent posture. It was noticed that most of the symptoms that patients complained of when suffering from prolapsus uteri were the same as those presented in a case of hæmorrhoids, the exception being the pressure of the tumor forward by the pile, the hæmorrhage, and the intense pain on defecation. This suggested that the trouble was really the same congestion of the pelvic veins. Fissures of the rectum often caused dyspareunia, which might be mistaken for vaginismus, and relief of the cause was quickly followed by disappearance of the symptoms. Any and all of these conditions might be exaggerated, going on to abscesses in the recto-vaginal septum if the cause persisted, and finally producing a general breaking down of the health. In this paper the author's endeavor was merely to outline this subject, as there was so little said by authorities in regard to this particular question. If its consideration directed more attention to closely contiguous and related organs, he believed that many errors in diagnosis would be avoided and much more benefit result to patients.

Dr. H. J. Boldt said there was no doubt that this subject had been much neglected, and that the presence of rectal disease was too often overlooked by gynæcologists. In four fifths of his uterine cases the patients were examined *per rectum* and obscure symptoms very often cleared up thereby.

The opinion expressed by Dr. Boldt was that of the speakers who followed him, and the author of the paper was thanked for bringing before the Section points full of practical suggestiveness.

Reports on the Progress of Medicine.

DISEASES OF CHILDREN.

By FLOYD M. CRANDALL, M. D.

Cholera Infantum.—Lesage (*La Semaine méd.*, April 9, 1890) has found a germ which he believes is concerned in the production of cholera infantum. When cultivated in gelatin or bouillon an alkaline product is obtained having a distinctive odor which it retains many months. It is more tenacious of life than the cholera bacillus and is more resisting to external agents. Isolated, it is capable when injected into animals of producing choleraic symptoms. Its connection with the disease seems to be proved by the following facts: 1. It is found only in cases of cholera infantum, the numbers sometimes being very large. 2. It produces experimental cholera. 3. It produces a substance identical or similar to that produced by the comma bacillus. It causes death in certain doses and in smaller doses toxic symptoms. 4. It produces choleraic intestinal lesions.

The Treatment of Diarrhœa.—Dr. Davenport (*Trans. of the Second Intercolon. Med. Cong. of Australas.*, Jan., 1891) disapproves strongly of astringents in septic diarrhœa. Chloral sometimes yields exceedingly good results. It acts as an antiseptic, sedative, and antipyretic. One grain may be given every three hours at six months.

The Physiology of Digestion in Infants.—Dr. Booker (*Johns Hopkins Hosp. Bullet.*, July, 1890) has found that milk remains in the stomach of infants for a much shorter time than in adults. The period depends upon the character of the milk and the age of the patient. In breast-fed children during the first week the stomach is sometimes found empty within an hour after nursing. The maximum period for breast-fed children during the first week is an hour and a half, and two hours for older children and those fed on cows' milk. It has not yet been determined whether the milk passes from the stomach continuously or periodically. During the first few minutes after feeding, the reaction of the contents of the stomach is that of the food that was taken. After fifteen minutes it is always acid. Milk absorbs hydrochloric acid so rapidly that free acid does not appear until late.

In disordered conditions of the digestion milk remains much longer in the stomach than in health. Milk curds are sometimes washed out four or five hours after feeding. They sometimes become very hard and of bad odor. Excessive secretion of mucus usually accompanies disordered digestion.

A Study of Chorea.—Leroux (*Rev. mens. des. malad. de l'enf.*, June, 1890) believes that a form of chorea is sometimes encountered that is essentially rheumatic in character, but that in most cases the union is not so direct as to prove that the chorea is an expression of rheumatism. During three years he followed, at the Dispensary of Furtado-Hein, all cases of chorea, slight and severe, noting especially the rheumatic and cardiac manifestations. Among 162 cases thus observed, 82 showed no rheumatic symptoms while under observation. The antecedents, however, were not noted, and the patients were not followed very closely. They are therefore thrown aside, and conclusions are drawn from the remaining 80 cases only. Analysis of these cases shows the following results:

Chorea with acute articular rheumatism, 2 cases.

Chorea with articular rheumatism preceding or alternating with the choreic symptoms, 2 cases.

Chorea with vague pains in joints, but with no fever, 13 cases.

Chorea without rheumatic symptoms, 62 cases.

Thus, in 80 cases, but 5 had distinctive rheumatic symptoms. In every instance the history was carefully taken, and the patient followed long after cure was effected. Three or even four relapses were seen in some cases. The author believes that it is not right to consider as true rheumatism the vague joint pains which so frequently accompany chorea. There are many cases of chorea without rheumatism, and many cases of rheumatism without chorea. Chorea is most frequent between eight and twelve years—at the time when growing pains are common, which he evidently believes are not rheumatic. Rheumatism is most common between twelve and fifteen years. Between eight and fifteen years chorea is more common than rheumatism, and growing pains are more common than both chorea and rheumatism combined.

Examination of the heart in these 80 cases revealed a mitral murmur in 5 patients. The lesion was evidently old. Every one of the five patients had measles, and but one subacute articular rheumatism. Eight had anæmic murmurs—three at the apex and five at the base. The remaining cases showed no evidence whatever of cardiac disease.

A history of preceding nervous disease was rare. But three children had had convulsions; two had been subject to migraine. A study of heredity showed that chorea had occurred in the father in but one instance. Fourteen mothers were distinctly hysterical, and this the author believes is a point of considerable importance. Alcoholism is also an ætiological factor of much importance. Of these cases, the father had been undoubtedly alcoholic in twelve. The father had been rheumatic in five instances, the mother in seven, the father and mother in one. These figures confirm the author's belief that chorea is not of rheumatic origin, but a true nerve disease.

[Statistics of this character depend for value entirely upon their interpretation. Though these observations were undoubtedly made with great care, from different views regarding the symptoms of rheumatism in children, American and English physicians will not be inclined to wholly accept the conclusions drawn by the author.]

Exalgine in Chorea.—Moncorvo (*Bul. gén. de thérap.*, Dec. 30, 1890) reports a single case markedly improved by exalgine. The patient was a girl eight years old. Treatment was begun on the tenth day of the disease. Three grains daily were given at first, and increased to four grains and a half. Decided improvement was noted on the fourth day. Recovery was rapid and complete.

Disordered Digestion in Young Children.—Moncorvo (*Arch. f. Kinderh.*, xi, 5, 6) believes that the frequent occurrence of digestive disorders in infants is largely due to deficiency in the acidity of the gastric juice. This condition of deficient acidity continues to the end of the second year. It is to be counteracted by judicious use of hydrochloric acid.

Tapping the Ventricles in Hydrocephalus.—Dr. Chaffey reports a case in the *British Med. Journ.* of Jan. 31, 1891. The patient was fourteen months old when admitted to the hospital, presenting the usual signs of acute hydrocephalus. The cranium was abnormally large; the anterior fontanelle was bulging, and was as large as a half-crown piece. The disease rapidly progressed, and it was decided to tap the lateral ventricles. A trocar and cannula were passed through the left lateral angle of the fontanelle, the instrument being directed inward, with a slight inclination toward the mesial line, to the depth of an inch and a half. On withdrawing the trocar, about two drachms of clear cerebro-spinal fluid escaped. The stop-cock of the cannula was then turned to prevent further flow, and over its mouth was placed one end of a long India-rubber tube previously filled with a weak solution of common salt. The other end of the tube was placed in a vessel under the bed containing a similar solution. Antiseptic precautions were taken, but no anæsthetic was employed. The patient was in a semi-comatose condition and remained very quiet. The cannula was maintained *in situ*, and a drachm of fluid was withdrawn every three hours. This was readily accomplished by turning the stop-cock. Each withdrawal of fluid was immediately attended by a lessening of the collapse and coma, and the anterior fontanelle became gradually depressed, the edges of the cranial bones in its vicinity overlapping each other. The patient, however, became weaker, and died three days after the operation.

The autopsy showed that the trocar had passed through the superior frontal convolution and entered the left lateral ventricle through the roof of the anterior horn close to the corpus striatum. There were no secondary changes along the track of the instrument. The capacity of the ventricles was fully six ounces. Their dilatation was probably induced mainly by a caseous deposit at the summit of the transverse fissure, which pressed upon and constricted the iter. Some recent tubercle and lymph existed in both Sylvian fissures. The brain substance was somewhat softened. Recent tubercle was also found in other organs, but its presence gave rise to no signs during life.

Observations on some Diseases of Children recently Born.—An article by Logan, in the *Liverpool Med.-chirurg. Jour.* for January, 1891, considers certain diseases peculiar to children during the first month of life. In England it is found that for every one thousand births, one hundred and forty-five children die during the first year of life. This enormous death-rate is attributable in large part to ignorance concerning the proper management of children, not only on the part of mothers, but also on the part of the profession, especially of the junior practitioners. It is an encouraging fact, however, to find, in looking back thirty years, that the death-rate in children under five years has decreased much more rapidly than among adults. It is, no doubt, due to increased intelligence in the care of infants. The first condition considered by the author is what he designates as *general feebleness.* Premature infants, the children of feeble parents, or such as suffer from syphilis, may be born with a general lost vitality, breathing feebly and having very slight powers of digestion. The cause of feebleness is sometimes obscure, and the child dies without ascertainable cause. These feeble infants may slowly gain strength, or may rapidly die, or may continue long to live a life below par. Icterus neonatorum is probably of the hæmatogenous variety and is very rarely a serious affection. The symptoms of syphilis frequently appear during the first month, but the more characteristic manifestations are not common until later. Rickets is very rarely seen. With proper antiseptic care, the umbilical cord and navel should give little or no trouble. Thrush, which is such a common disorder of the first month, is best treated by small doses of gray powder and the local application of a solution of borax. Dyspepsia and gastro-enteritis are the most formidable and fatal disorders of the first month of life. When digestion is but slightly impaired, there may be a distressing accumulation of flatus with colic; with greater impairment, there will be vomiting or diarrhœa. In treating such cases, regulation of the diet should be the first care, medicines being secondary. Cephalæmatoma is an effusion of blood above or below the pericranium, and usually persists for a few weeks. It should be protected from injury, but otherwise should not be interfered with.

Diphtheritic Paralysis.—Hausemann (*Archiv f. Kinderheilk.*, xi, 5, 6, 1890) has observed in himself the symptoms which he records, a fact which renders the paper one of unusual interest. The lesions and symptoms of this disease are but imperfectly understood, and observations made with such precision are of the greatest value. The diphtheritic attack was very severe and developed suddenly on the 19th of June. The tonsils were first involved. The membrane rapidly extended to the palate, and soon covered the whole posterior wall of the pharynx, but did not reach the larynx or nasal cavities. The temperature rose to 104° F., and the urine was loaded with albumin.

The first paralysis appeared on the eighteenth day after the onset, and involved the right side of the arch of the palate. On the following day there was a sensation of prickling in the tongue, which slowly increased in intensity, and was followed by a feeling of uncertainty in its movements. Following this was anæsthesia, and in time almost complete paralysis of the organ. Other parts were involved in a manner almost identical, paræsthesia being the first symptom, then progressive anæsthesia, terminating at length in paralysis more or less complete. The different organs were attacked by a process following a uniform type. Those first involved were the ones nearest the seat of the diphtheria, the tongue, lips, and jaws, and the muscles of expression being successively attacked. At this stage sight and hearing were normal, but the senses of taste and of odor were considerably deadened. The process next passed to the œsophagus and larynx, showing itself by a change in the voice. During the fifth week the trigeminus was attacked, chiefly in the second and third branches, to the extent of paralyzing the muscles of the face. This was soon followed by evidences of trouble in the glosso-pharyngei, the hypoglossi, and the pneumogastric. The heart was but slightly affected, a tendency to syncope and quickening of the pulse being the only symptoms manifested.

During the sixth week the upper extremities became involved, and then the trunk and lower extremities, with the same succession of symptoms. There were at times sharp pains and a general feeling of illness, intellectual depression, sleeplessness, and a feeling of heat without a corresponding rise of temperature. Thus the whole body was in turn affected. The hands were for a considerable time subject to irregular, unnatural movements, which ceased under the influence of the will. The paralysis reached its height at the end of three months. The first improvement was noticed in the pharynx and face. When improvement began, complete recovery rapidly followed. Throughout the whole disease the succession of symptoms was the same—paræsthesia, anæsthesia, ataxia, paresis, and complete paralysis. Treatment consisted in the use of tonics and massage.

Certain Convulsive Disorders in Young Children.—In a lengthy article in the *Rev. mens. des malad. de l'enf.* for December, 1890, Dr. Descroizilles considers the effects of certain localized convulsive disorders which are sometimes seen in young children. The movements are rhythmical and very similar to those of chorea. Their influence on the character of the child is deplorable, for they often disturb very seriously the moral and intellectual balance. Individuals tainted with this malady are generally irritable and fretful, and inclined to hypochondria. They are generally found in families afflicted with nerve diseases. Symptoms usually begin after a fright, violent emotion, a fall, or a blow. It is wise to combat the condition with bromides and drugs of that character, but the chief dependence must be placed on hydropathic and electric treatment, although they must be used with great caution. The children must be managed with great care, especially the more intelligent ones, and the inclination to humor their caprices must be checked. There seems to be some analogy between these cases and certain ataxic conditions seen in the adult, though their pathology is not fully understood.

Intussusception.—Brinton (*Arch. f. Kinderh.*, xi, 5, 6) has collected the histories of five hundred cases of fatal intestinal obstruction. Two hundred and fifteen of these were due to invagination. The injection of air has proved on the whole the most effective treatment in children. The reduction in some instances is very difficult and repeated trials are necessary. No violent means should be employed and an anæsthetic should be administered if there is resistance on the part of the patient.

Stomach-washing in the Gastric Disorders of Infants.—Professor Troïtzky (*Bul. gén. de thérap.*, Sept. 13, 1890) reports his experience with this mode of treatment in sixty-four cases. The children were all under four months of age. Vomiting was a symptom in every case. Twenty were suffering from green diarrhœa and thirty from yellow diarrhœa. The instruments employed were a Nélaton catheter and a glass funnel. The fluid was either pure water or a weak solution of benzoate of soda. Conclusions from study of results are as follows:

1. The procedure is an efficient means of cutting short gastro-intestinal disease in the early stages. The earlier it is performed the more satisfactory are the results.
2. The best results are obtained in simple dyspepsia without fever, the pure gastric form of the disease yielding most quickly.
3. Stomach-washing is also efficacious in specific diarrhœa and fully developed inflammatory cases. Other therapeutic measures must, however, be added.
4. In chronic forms of gastro-intestinal disease it is often of value, but must always be combined with other measures.

Paralysis occurring during the Course of Pneumonia in Children.—Aufrecht (*Arch. f. Kinderh.*, xi, 1890) reports two cases. The first was twenty-one months of age. On the third day of the disease coma appeared, and on the eighth day paralysis of the left arm and leg. Vomiting and convulsions were absent. Crisis occurred on the ninth day and was marked by profuse sweating. After the crisis the child's mental condition seemed to be normal, but the paralysis persisted without signs of improvement for three days. The hand was the first to improve and then the leg. Paralysis had entirely disappeared two weeks after the crisis.

The second patient was twenty-seven months of age. The first symptoms were fever and vomiting, followed on the next day by convulsions and paralysis of the left side of the body. The paralysis soon disappeared, but a peculiar nodding of the head which had appeared at the same time continued. Cough did not appear until the sixth day, and no signs of pneumonia until the seventh. It was confined to the left upper lobe. The case progressed naturally and resulted in complete recovery. The author believes that probably such paralysis is produced by œdema of the brain, as in uræmia. This might be brought about by a change in the composition of the blood, or by obstruction of venous blood from the brain when the upper lobes are involved, as is usually the case.

Three Cases of Pseudo-hypertrophic Paralysis in Brothers (Ness, *Glasgow Med. Jour.*, February, 1891).—The family consisted of four brothers, three of whom were afflicted with the disease. The one not affected was sixteen years of age. The youngest was eight years old; the first symptoms appeared when he was between two and three years. The symptoms were typical, and during the last two years had become gradually more pronounced. In the case of the second, who was twelve years of age, the disease was more pronounced, the power of locomotion being entirely lost. In the third, who was eighteen, the disease was still more advanced.

The feature of most interest in these cases is the family history. The mother had two sisters and four brothers. The two sisters married brothers of her husband, so the three sisters married brothers. Each of these two sisters had a family of boys and girls none of whom were affected with pseudo-hypertrophic paralysis. The four brothers, maternal uncles of the patients, died of the disease—two at the age of twenty years and one at twenty-seven. The age of the fourth is unknown. The mother, again, had eleven cousins all belonging to the same family. This family consisted of eight sons and three daughters. Of these sons, two died of pseudo-hypertrophic paralysis. One is healthy; the others died young with no signs of the disease. Of the three daughters, one married and has four children, a boy, aged sixteen, and three girls, all healthy. There are, therefore, no fewer than nine male persons who have been affected with pseudo-hypertrophic paralysis, while none of the females have been affected. It is, however, clear that the transmission is through the female, because four brothers and two cousins of the mother died of the ailment. Going further back, the transmission is through the maternal grandfather and granduncle.

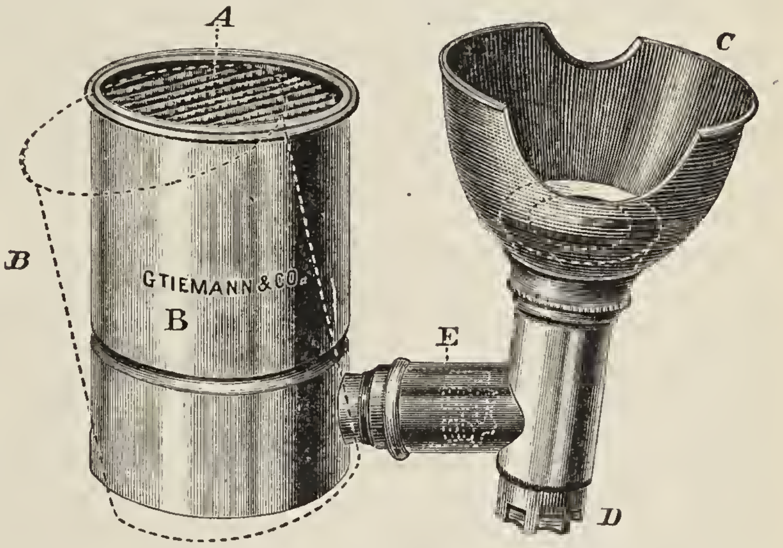
Relapses in Measles (Senator, *Charité Annalen*, xiv, 1890).—There are no positive records of the frequency of recurrences of measles and scarlet fever. Both relapses and recurrences, the author believes, are not infrequent. He reports five cases of relapse of measles. The first patient was a girl ten years of age. Twenty-two days after the onset there was a second attack. It was of greater severity than the first. The second and third patients were two brothers, aged eight and four years. The second attack occurred nine weeks after the first. The fourth was a girl of thirteen years, the two attacks being four weeks apart. Her mother was the fifth patient and was ill at the time of her daughter's second attack. The last four cases, it will be observed, occurred in two families. It seems possible that there was some family predisposition to the recurrence of infectious diseases.

New Inventions, etc.

A NEW ETHER INHALER.

By J. S. Wight, M. D.,
BROOKLYN.

The accompanying figure represents the inhaler. A points to the evaporator, which is a slotted cylinder made to go inside the receiver, B. The evaporator rests on the projection made by means of the groove seen on the receiver. It is sufficient to say that the receiver is constructed on the principle of the inhaler invented by Dr. Allis. The bandage which goes through the slots is wound around the evaporator two or three times, so as to make it fit quite closely inside the receiver. The lower part of the receiver is empty, serving as a kind of reservoir to catch the ether as it may happen to run down through turns of the bandage in the receiver. E represents a valve of peculiar construction, opening away from the receiver and closing toward it. The tube which contains the valve E makes a movable cone-joint with the tube which connects with the tube holding the mouth-piece, C. The mouth-piece fits the end of this tube with a movable cone-joint, and can be detached at any time for the purpose of disinfecting it. At D is a valve of the same construction as the one at E; it opens away from the tube and closes toward the mouth-piece. The construction of the valve is briefly as follows: There is a slotted framework in the form of a short cylinder, which contains a flat circular disc of aluminium—a metal of well-known properties; the valve-frame has three pointed metallic pins on one end, and on the other the end of the conducting-tube made into a knife-edge, in order that the valve-disc may be prevented from adhering when it becomes covered with moisture.



The two cone-joints will allow the parts of the inhaler to be so moved as to permit the patient to lie in any practicable position. The mouth-piece must be kept close to the face of the patient to prevent the ingress of air. The ether is poured into the evaporator from time to time as is required. The inspiration of the patient closes the valve D and opens the valve E, drawing the air through the evaporator, in which it becomes mixed with the ether vapor; if need be, the strength of the vapor can be increased by holding the hand over the top of the receiver. The expiration of the patient closes the valve E and opens the valve D, out of which pass the products of respiration. In case of the patient needing more air, it can be supplied by gently raising the mouth-piece from the face, or by using a smaller quantity of ether.

I have found this inhaler to have the following points of advantage: It will produce anæsthesia quickly and safely; it removes the products of respiration; it does not permit the liquid ether to run into the nose and throat of the patient; it can be kept aseptic, since the mouth-piece can be taken off and disinfected at any time; it economizes the ether; and the valves are so constructed that they can not adhere, so they will move if the patient breathes at all.

The evaporator, A, is removable, and, after being used, it should be taken out in order to let it dry. This must be done, since the ether, or perhaps the products it contains, may corrode the inhaler. After drying, the evaporator may be replaced.

The instrument was made for me by George Tiemann & Co., New York.

Miscellany.

The Seventh International Congress of Hygiene and Demography will be held in London, from the 10th to the 17th of August, under the presidency of the Prince of Wales. The permanent international committee consists of Dr. P. Brouardel (President), France; Dr. J. S. Billings, United States; Professor W. H. Corfield, England; Dr. Duncan, Russia; Dr. H. R. Greene, Pasha, Egypt; Professor F. von Gruber, Austria-Hungary; Dr. A. Mosso, Italy; Mr. Shirley F. Murphy, England; and Dr. W. Roth, Germany (in the Section in Hygiene); M. J. Bertillon, France; Professor L. Bodio, Italy; Dr. R. Böckh, Germany; Sir Douglas Galton, England; Dr. Carl T. von Inama-Sternegg, Hungary; Professor Jules Jahnson, Russia; and Dr. W. Ogle, England (in the Section in Demography); and the following additional members: Dr. A. Chervin, Paris; Dr. Eugène Janssens, Brussels; Professor A. N. Kiäer, Christiania; Dr. Carl Keleti, Buda-Pesth; M. Josef Körösi, Buda-Pesth; Dr. Georg von Mayr, Munich; M. W. E. Milliet, Berne; and Dr. Enrico Rasseri, Rome. The organizing committee consists of Sir Douglas Galton, K. C. B., D. C. L., LL. D., F. R. S. (chairman), T. Graham Balfour, M. D., F. R. S., Professor G. T. Browne, Ernest Clarke, W. R. E. Coles, Surgeon-General Cornish, C. S. I., M. D., Professor W. H. Corfield, M. A., M. D. (Oxon.), F. R. C. P., Sir Joseph Fayrer, K. C. S. I., M. D., F. R. S., Professor Edward Frankland, Ph. D., D. C. L., LL. D., F. R. S., Rowland Hamilton, Ernest Hart, Professor T. Hayter Lewis, F. R. I. B. A., Frederick Hendriks, F. I. A., F. S. S., Alderman and Sheriff Stuart Knill, G. B. Longstaff, B. A., F. R. C. P., F. C. S., E. D. Mapother, M. D., F. R. C. S. I., Surgeon-General Marston, C. B., M. D., Shirley F. Murphy, Professor G. V. Poore, M. D., F. R. C. P., Professor Henry Robinson, M. Inst. C. E., David F. Schloss, R. Thorne Thorne, M. B., F. R. S., and Ernest Turner, F. R. I. B. A.

Kumyss as a Food for Babies.—In a recent issue of the *Nightingale*, Dr. John H. Ripley says, after having spoken of condensed milk: "The next best food for babies is Dr. Brush's kumyss. I say Brush's because that is the best kumyss made. In a certain proportion of cases it even excels all other foods. I will give you an instance. A doctor came to me in regard to his own child. The baby was four months old and was suffering from summer complaint. He had tried all kinds of foods—sterilized milk and other foods. The child had wasted to skin and bone and he was afraid that it could not live more than a few days. I was about getting off to the country and I told this doctor that I could not go to see his child but that I would advise him to try Brush's kumyss. He did so and the child recovered. He told me that the child commenced to pick up at once."

The Second Congress for the Study of Tuberculosis will be held in Paris, from July 27th to August 2d, under the presidency of Professor Villemin. The subjects announced for discussion are as follows: The Identity of the Tuberculosis of Man and the Tuberculosis of the *Bovidæ*, the *Gallinaceæ*, and other Animals; The Bacterial and Pathological Associations of Tuberculosis; The Hospitalization of the Tuberculous; The Prophylaxis of Human and Animal Tuberculosis; and The Innocuous Agents capable of destroying Koch's Bacillus, from the Point of View of the Prevention and Treatment of Human and Animal Tuberculosis. Those intending to take part in the proceedings should send a postal order for 20 francs to M. G. Masson, treasurer, No. 120 boulevard St.-Germain. Correspondence concerning communications may be addressed to Dr. L.-H. Petit, secretary general, No. 11 rue Monge.

The late Dr. Ralph A. Parsons, of Boston.—At a special meeting of the faculty of the Boston Dental College the following resolutions were passed:

Whereas, In the dispensations of Divine Providence, a most highly esteemed and able instructor in this college, Dr. Ralph A. Parsons, has been removed by death, therefore, be it

Resolved, That in the death of Dr. Parsons the Boston Dental College has sustained the loss of an earnest and enthusiastic worker—one whose able, scientific, and practical instructions were shown in the remarkable progress of the students under his charge. It is therefore voted that a copy of this resolution be spread upon the college records and published in the leading medical and dental journals, and that a copy be also sent to his immediate relatives.

[Signed] George F. Eames,
Committee for the Faculty.

To Contributors and Correspondents.—*The attention of all who purpose favoring us with communications is respectfully called to the following:*

Authors of articles intended for publication under the head of "original contributions" are respectfully informed that, in accepting such articles, we always do so with the understanding that the following conditions are to be observed: (1) when a manuscript is sent to this journal, a similar manuscript or any abstract thereof must not be or have been sent to any other periodical, unless we are specially notified of the fact at the time the article is sent to us; (2) accepted articles are subject to the customary rules of editorial revision, and will be published as promptly as our other engagements will admit of—we can not engage to publish an article in any specified issue; (3) any conditions which an author wishes complied with must be distinctly stated in a communication accompanying the manuscript, and no new conditions can be considered after the manuscript has been put into the type-setters' hands. We are often constrained to decline articles which, although they may be creditable to their authors, are not suitable for publication in this journal, either because they are too long, or are loaded with tabular matter or prolix histories of cases, or deal with subjects of little interest to the medical profession at large. We can not enter into any correspondence concerning our reasons for declining an article.

All letters, whether intended for publication or not, must contain the writer's name and address, not necessarily for publication. No attention will be paid to anonymous communications. Hereafter, correspondents asking for information that we are capable of giving, and that can properly be given in this journal, will be answered by number, a private communication being previously sent to each correspondent informing him under what number the answer to his note is to be looked for. All communications not intended for publication under the author's name are treated as strictly confidential. We can not give advice to laymen as to particular cases or recommend individual practitioners.

Secretaries of medical societies will confer a favor by keeping us informed of the dates of their societies' regular meetings. Brief notifications of matters that are expected to come up at particular meetings will be inserted when they are received in time.

Newspapers and other publications containing matter which the person sending them desires to bring to our notice should be marked. Members of the profession who send us information of matters of interest to our readers will be considered as doing them and us a favor, and, if the space at our command admits of it, we shall take pleasure in inserting the substance of such communications.

All communications intended for the editor should be addressed to him in care of the publishers.

All communications relating to the business of the journal should be addressed to the publishers.

THE NEW YORK MEDICAL JOURNAL, May 23, 1891.

Original Communications.

MEDICAL AND OTHER OPINIONS UPON THE POISONOUS NATURE OF THE BITE OF THE HELODERMA.

By R. W. SHUFELDT, M. D., C. M. Z. S., etc.

In North America there are two species of helodems—the *Heloderma horridum* of old Mexico, a form that does not occur within the limits of the United States, and the *Heloderma suspectum* of Cope, which is found principally in suitable localities throughout Arizona. There this, the biggest by all odds of all our lizards, is popularly known as the "Gila monster," from the fact that it was once quite common on the Gila River. Collectors are now rendering it scarce over nearly all its range, and no doubt the time is not far distant, comparatively, when this highly interesting species will meet with utter extinction.

Living specimens of this reptile have been in the writer's possession for a year or two together, affording him admirable opportunities to study it in all particulars—advantages I have quite fully availed myself of, as my published papers on the subject will attest.[*]

Adult helodems average some twenty inches in length and are covered with tuberculated scales, which vary in form on different parts of the body, and in old specimens are prone to ossify over the back and top of the head. These scales are of a shiny black and orange, the two colors being arranged in a definite pattern, which latter never agrees in any two specimens. Notwithstanding this great size for a lizard, and this most striking coloration, there are many people in Arizona and the Southwest generally that apply the term "Gila monster" to any large lizard-looking form that may come under their observation. I have had medical officers of the army, ranch-men, guides, and others, who surely ought to know better, point me out *Amblystomata*, and even the common forms of the *Phrynosoma*, as Gila monsters. This being the case, I feel quite sure that the excellent figures which I am enabled to offer in the present connection of a large female *Heloderma* that I had, some time ago, alive for nearly two years will be acceptable, and in some respects exceedingly useful—useful because the general opinion in the Southwest and elsewhere is that the bite of this saurian is poisonous, and as a matter of diagnosis it is very desirable to know that the patient has actually been bitten by a *Heloderma* and not by something else.

Fig. 2 is from an instantaneous picture where I strapped my camera in such a position as to bring the focal axis of the lens perpendicular to the floor, where I placed a sheet of white blotting paper, over which the reptile walked beneath the instrument, allowing me to secure the photograph. In Figs. 1 and 3 the *Heloderma* was hypnotized, and thus easily taken; in Fig. 1 the ventral aspect of her body and head are resting upon a plane surface, which gives that flattened appearance, but otherwise the likeness is admirable. The leading herpetologist in this country, Professor Cope, who was my guest this week, examined these photographs, and remarked that they gave a better idea of the form of a *Heloderma* than any of the many figures that had thus far been published, either here or in Europe.

We now come to consider that part of the subject that falls more properly within the title of this contribution—in other words, the nature of the bite of one of these reptiles.

Even at the present writing the wide variance of opinion in these premises is truly remarkable, for some of our most distinguished investigators still disagree in the matter, and those, too, who have made the most exhaustive examinations of the saliva of this reptile.

As long ago as 1857 John Edward Gray, of the British Museum, in referring to *Necturus*, said: "I know of no other instance of a batrachian having this structure of its teeth, nor do I know any instance, except in the Mexican lizard, called *Heloderma horridum*, in which *all the teeth* are uniformly furnished with a basal cavity and foramen, and this lizard is said to be noxious; but the fact has not been distinctly proved."[*]

Professor E. D. Cope, who first clearly characterized this reptile and gave it its present name of *Heloderma suspectum*, has stated that "though the lizards of this genus could not be proved to inflict a poisonous bite, yet the salivary glands of the lower jaw were emptied by an efferent duct which issued at the basis of each tooth, and in such a way that the saliva would be conveyed into the wound by the deep groove of the crown."[†]

Then several years passed before much else was published upon this special topic of the life-history of the *Heloderma*, when Sumichrast, a well-known naturalist, stated it as his opinion that it was the exception that small mammals died from the bite of this saurian.[‡]

Soon after there appeared an editorial in *The American Naturalist* (1882, page 842) referring to the experiments of Dr. Irwin, of the army, which went to prove that the bite of the *Heloderma* was comparatively harmless; but it added further that a specimen in the Zoological Garden of London had bitten a frog and a guinea-pig, both of which had died in a few moments. Still, the editor of *The Naturalist* was of the opinion that "this might happen if this large lizard was not poisonous, and there is room for more careful experiments as to its venomous qualities."

---

[*] The most extensive one of these is a memoir entitled Contributions to the Study of *Heloderma suspectum*, published in the *Proceedings of the Zoological Society of London* for April 1, 1890, pp. 148–244, Plates XVI–XVIII.

[*] John E. Gray. On the Genus *Necturus* or *Menobranchus*, with an Account of its Skull and Teeth. *Proceedings of the Zoological Society*, 1857, p. 62.

[†] *Proc. of the Acad. of Nat. Sci. of Philadelphia*, 1867, p. 5. With respect to the anatomy of the poison apparatus, see my letter in *Nature*, No. 1118, v. 43, London, April 2, 1891, pp. 514, 515. The efferent ducts do not open by means of foramina at the *bases of the teeth*.

[‡] F. Sunichrast. *Bulletin de la société zoologique de France*, 1880, p. 178. "J'ai peu de chose à ajouter aux observations de mœurs que j'ai publiées sur cette espèce, il y a quelques années, si ce n'est, qu'après de nouvelles expériences sur sa morsure, je suis arrivé à la conviction qu'elle occasionne rarement la mort chez les animaux d'une certaine taille et que, la plupart du temps, elle n'est suivie que d'une enflure de la partie mordue qui disparait au bout de vingt-quatre heures au plus; c'est au moins le seul effet qu'elle ait produit sur plusieurs jeunes chiens que j'ai fait mordre dernièrement."

In the same year no less distinguished an authority than Dr. Günther, of the British Museum, comes forward and states that there can be no doubt as to the poisonous nature of the bite of *Heloderma horridum*, and cites numerous cases to support his views;[*] and Dr. Sclater, the secretary of the Zoological Society of London, apparently entertained a similar opinion,[†] as did also the eminent herpetologist, Mr. Boulenger, of the British Museum.[‡]

During the same year the present writer, who was at that time connected with the Department of Reptiles at the United States National Museum, was severely bitten by an infuriated adult specimen of *Heloderma suspectum*, and, although much pain and grave symptoms at once supervened, the results passed entirely away in a few days with barely any treatment. I published a short account of it at the time.[#] Again, before this year closed, Sir Joseph Fayrer brought forth some evidence, deduced from experiments, that went to show the poisonous nature of the bite of a heloderm.[‖]

Early in 1883, however, the matter seemed to be definitely settled for good and all through the results obtained by the very celebrated experiments of those two distinguished physicians of Philadelphia, Dr. S. Weir Mitchell and Dr. Edward T. Reichert. After a most carefully conducted series of experiments with the saliva taken from living heloderms, these authorities were prepared to say that it possessed properties of an extremely venomous nature, killing pigeons and small mammals a few moments after they had received an injection of it hypodermically.[△]

Five years now elapsed with hardly a printed word appearing anywhere upon the question of the poisonous or non-poisonous qualities of the saliva of one of these *suspected* reptiles. Then there appeared an account of the somewhat remarkable series of experiments made with the saliva of living heloderms by Dr. H. C. Yarrow, at the United States National Museum, Dr. Yarrow at the time being honorary curator of the Department of Reptiles in that institution. This investigator's methods of procedure were rather different from those adopted by Mitchell and Reichert, but apparently they were conducted with equal care,[*] and, strange to say, led to an entirely different result. Some eight or nine experiments upon chickens and rabbits went to prove that hypodermic injections of the saliva and bites of angry heloderms were by no means fatal to those animals, and practically they always recovered from the effects of the same. After presenting the steps of his final trial, this author concludes his account with the following remarks: "This experiment would seem to show that a large amount of the *Heloderma* saliva can be inserted into the tissues without producing any harm, and it is still a mystery to the writer how Dr. Mitchell and Dr. Reichert and himself obtained entirely different results. Were it not for the well-known accuracy and carefulness of Dr. Mitchell, it might be supposed possibly that the hypodermic syringe used in his experiment contained a certain amount of *Crotalus* or cobra venom, but, under the circumstances, such a hypothesis in entirely untenable." The following year Dr. Mitchell still adhered to his original opinion,[†] and undoubtedly does at the present time.

Mr. Samuel Garman, of the Museum of Comparative Zoology of Harvard University, next made some very interesting experiments by allowing large and vigorous heloderms to bite the shaved legs of kittens, and here again these feline victims refused to succumb to the effects of the wounds.[‡]

Very evidently the last word upon this subject has not yet been said, and opinions are very much divided—a host of supporters appearing upon either side. I have endeavored to give in this paper the bulk of the most reliable evidence now out and up to the present date; but there will undoubtedly be series of interesting experiments made with the saliva of this saurian in the future, and it is very important that there should be. To such experimenters I have a few suggestions to offer here—the same which should be borne in mind at the time of their investigations, or even in the examination of a person bitten by a *Heloderma.*

In the case of the latter, ascertain, if possible, the exact condition of the patient at the time of the infliction of the wound, as regards both sobriety and his general condition. Make sure that the reptile that inflicted the bite was a specimen of a *Heloderma.* Be careful not to destroy the victim with the remedies you administer to offset the effects of the bite. A quart of raw whisky, practically given at one dose, may prove more fatal than the bites of ten helodérms! If the patient dies after the bite of one of these reptiles, be sure to ascertain whether it was from the effects of the bite or from the effects of the remedies administered. The locality of the bite and other matters, of course, should also be carefully noted.

---

[*] A. C. Günther. *Encyclopædia Britannica*, ninth edition, article Lizard, vol. xiv, p. 735.

[†] Philip Sutley Sclater, F. R. S. *Proceedings of the Zoological Society*, London, 1882, p. 632. (Remarks: "3. A heloderm lizard [*Heloderma suspectum*] from Arizona, presented by Sir John Lubbock, Bart., M. P., F. R. S., F. Z. S., July 16th. . . . This lizard, which is new to the collection, is remarkable as belonging to the only positively known venomous form of the lacertilian order. It has been ascertained by actual experiment that its bite is fatal to small mammals.")

[‡] *Loc. cit.*, p. 631. (Remarks: "I may add that *Heloderma* is probably not the only poisonous lizard. *Lanthanotus borneensis*, a pretty close ally of this lizard, described four years ago by Dr. Steindachner, exhibits, according to that author, a similar dentition.") There is nothing on record at all to show that *Lanthanotus* is a poisonous reptile. At the present writing the specimen remains unique in collections.

[#] R. W. Shufeldt. The Bite of the Gila Monster (*Heloderma suspectum*). *The American Naturalist*, Philadelphia, November, 1882, pp. 907, 908.

[‖] Sir Joseph Fayrer, *Proc. of the Zool. Soc. of Lond.*, 1882, p. 632.

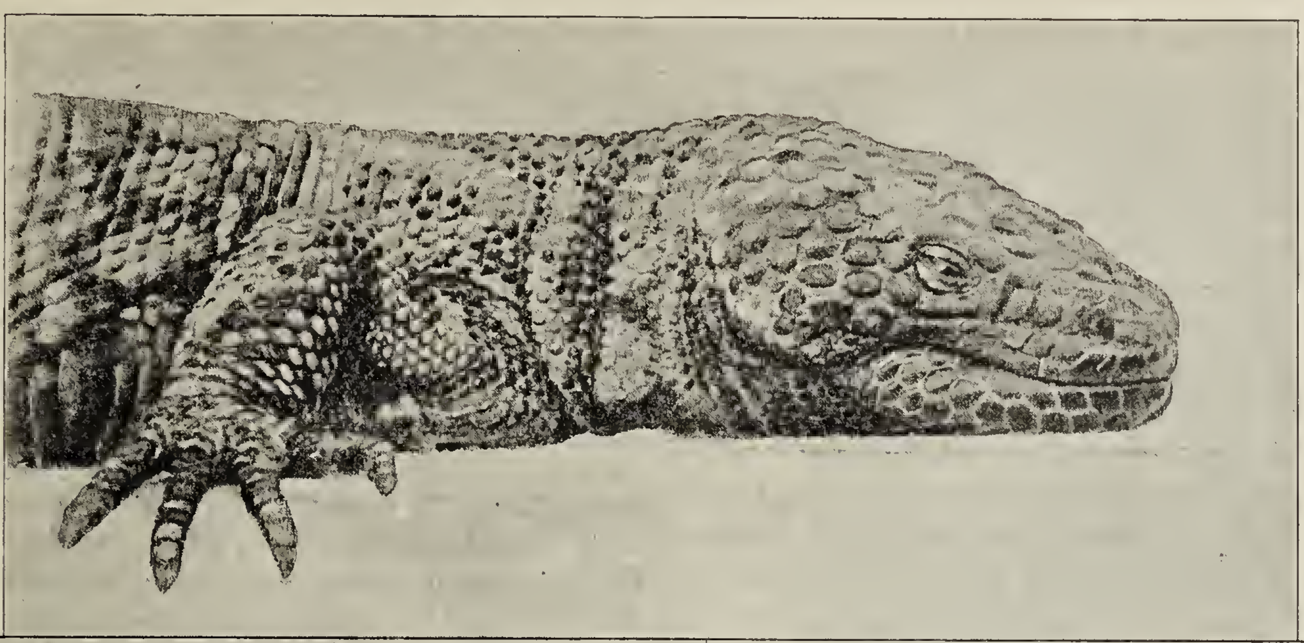
[△] Their accounts were first published in the *Medical News* (Phila.), Feb. 10, 1883, and *Science*, vol. i, No. 13, p. 372.

[*] H. C. Yarrow. Bite of the Gila Monster. *Forest and Stream*, New York, June 14, 1888, pp. 412, 413.

[†] S. Weir Mitchell. The Poison of Serpents. *Century Magazine*, vol. xxxviii, No. 4, New York, August, 1889, p. 505.

[‡] S. Garman. The Gila Monster. *Bulletin of the Essex Institute*, vol. xxii, Nos. 4, 5, and 6, 1890. Author's reprint, same title, pp. 1–10.

Fig. 1.



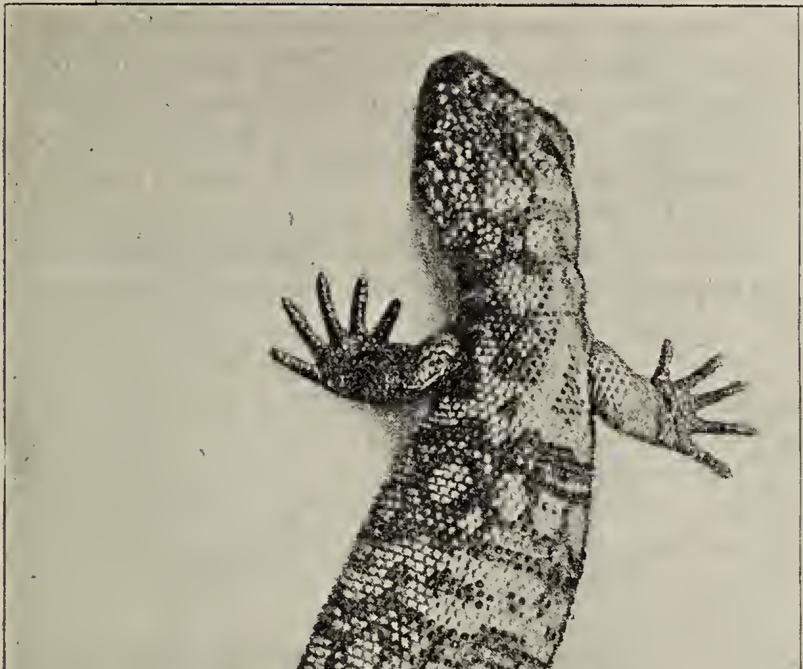


Fig. 2.

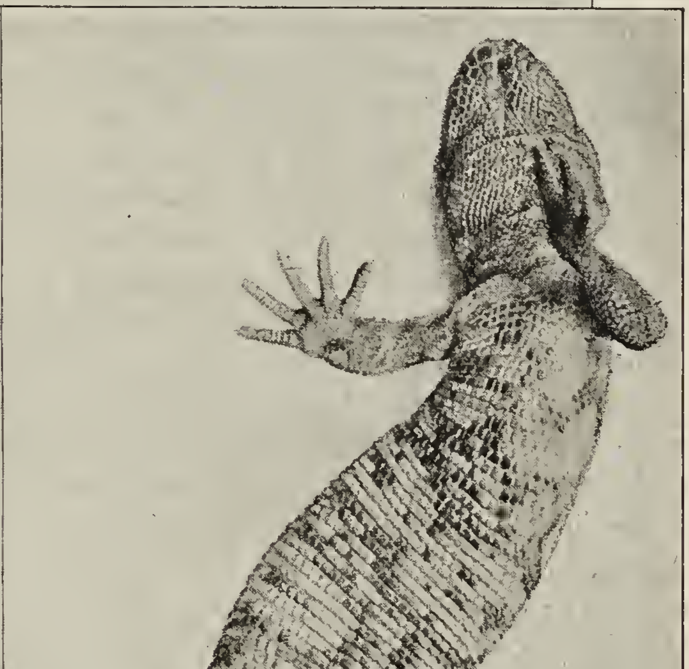


Fig. 3.

Heloderma suspectum, *Cope.*

Fig. 1.—Right lateral view of the head and fore part of the body of a large female *Heloderma.* (Slightly reduced.)
Fig. 2.—The same reptile seen directly from above. (Reduced.)
Fig. 3.—The same seen upon ventral aspect. (Also reduced.) All from photographs by the author.

Bear in mind, too, the facts, when experimenting with small mammals or other animals, that heloderms in nature often catch and kill such for food, and that it is just possible that they do not inject in such cases the supposed-to-be poisonous saliva. In other words, there may be a perfectly *innocuous buccal secretion* in addition to the secretion of the submaxillary gland, and it is from this latter alone that the poisonous saliva is supposed to exude. It will be noted that frogs nearly always die in the hands of experimenters from the bite of the *Heloderma;* now, a frog is a small animal, generally, and easily compressed, and the sharp teeth of the reptile may divide one of its main arterial trunks or even the aorta itself, thus killing the creature almost instantly. This should be carefully looked into, though in the case of the larger animals it is scarcely necessary from the fact that it is hardly possible for it to occur. Shock may have something to do with it, especially in the case of small birds. The condition of the lizard should always be observed, as well as the *time of the year.* Heloderms may have a certain amount of control over the supposed poison-gland, and their *temper* at the time of obtaining saliva for experiment may have some thing to do with it. It will be remembered in this connection that Dr. Mitchell obtained the saliva from his specimens by allowing the reptile to bite on the "edge of a saucer," and that "after a moment a thin, fluid-like saliva dripped in small quantities from the lower jaw. It was slightly tinted with blood, due to the violence of the bite, and it had a faint and not unpleasant aromatic odor." On the other hand, Dr. Yarrow's method "consisted in forcing the lizard to bite upon a piece of artist's gum, which, being elastic and yielding, did no injury to the teeth and afforded a fair hold." Be it noted that in the first case the angry reptile, attacking so unyielding an object as a saucer, may have been excited to bring its poison into play, while in the case of the soft artist's gum it may have deemed the wound of its teeth sufficient, and only the buccal saliva drooled away for Dr. Yarrow's experiments.

A SUPPOSED SARCOMA OF THE UPPER JAW THAT PROVED TO BE AN ENCHONDROMA.

REMOVAL; RECOVERY.

By W. L. MUNRO, M. D.,
PROVIDENCE, R. I.

The following somewhat remarkable case has for years attracted much attention and been the object of much interest to surgeons, by all of whom it was for a long time regarded as malignant:

Margaret C., seventy-six years old, widow, native of Ireland. Family history excellent. Always enjoyed good health. Owing to complete neglect, her teeth decayed rapidly and "went away with the toothache," only one or two being drawn. Eight years ago but one, the left upper canine, remained. Two years later (six years ago) this was extracted. One of her sons reports it as having a bunch as large as the bowl of his "T. D.," and weighing about half an ounce, on one side. It had long been ulcerated and painful. This ulcerated tooth with its "bunch" of some sort has been regarded by the family as the starting-point of the patient's troubles. At the same period, about six years ago, she first noticed a swelling a little below and to the inner side of the left malar eminence. This was hard, non-fluctuating, incompressible. It gradually increased for three years, during which time she was seen at intervals in the Surgical Out-patient Department of the Rhode Island Hospital. A similar swelling, crossing the hard palate in a diagonal direction, appeared soon after.

Between four and four years and a half ago a black, sloughing spot appeared within the mouth, near the center of the growth. This soon developed into an ulcer with excessively fœtid discharge. Suffered but little pain during all of this time.

On December 28, 1887, the patient was admitted to the Rhode Island Hospital for operation, if advised. I copy from the hospital records the following notes as to her condition at that time:

M. C., aged seventy-three, widow, sarcoma of upper jaw. Two years ago began to have swelling of upper jaw, beginning at the left malar bone and going down until now the whole upper jaw is occupied by a growth hard for the most part and apparently attached to bone. This growth involves the nose as well as the upper jaw on both sides, the left and probably the right malar bone. In the center of the upper jaw, lower surface, there is a spot of ulcerated tissue of the size of a quarter of a dollar and admitting a probe an inch. This ulcer gives out a sickening odor, which is not much disguised by listerine and other disinfectants. She suffers no pain from this growth.

January 2, 1888.—Consultation. The doctors present advised against any operation. At this consultation she was seen by most of the staff. After leaving the hospital she continued to attend the Surgical Out-patient Department. A small exploratory incision, in the ridge across the roof of the mouth, was made by one of the surgeons, with no result beyond some hæmorrhage. With this exception, she received no treatment except a myrrh mouth-wash.

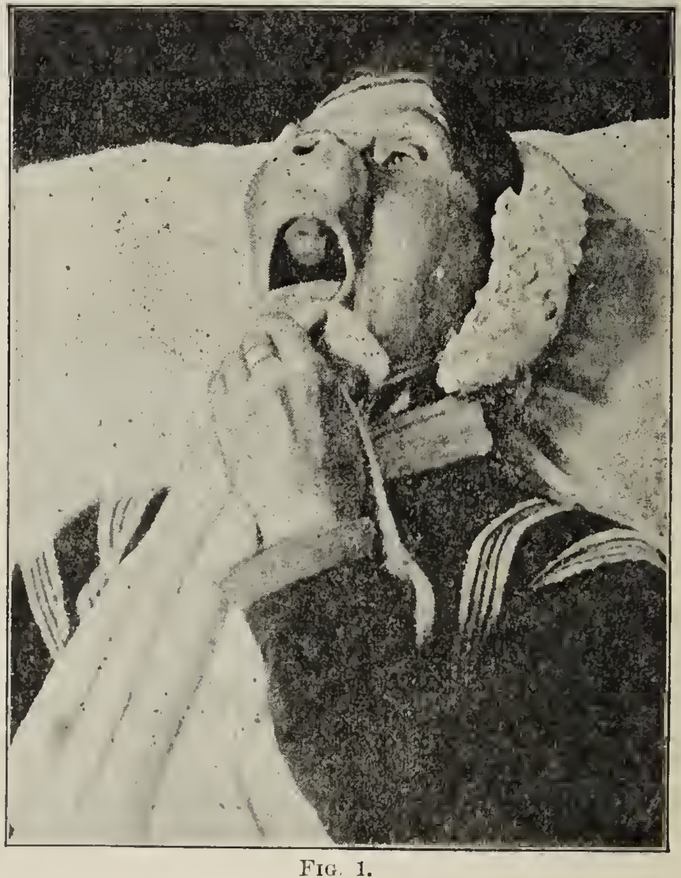


Fig. 1.

The discharge from the roof of the mouth continued free for a year or so after she left the hospital, and the tumor shrunk, much to our surprise, until it was barely noticeable. Meanwhile a similar growth was beginning on the right side, just below the malar eminence. About two years ago this began to advance more rapidly until it assumed, some time since, nearly the proportions seen in Figs. 1 and 2. The portion of the tumor occupying and occluding the left nostril was quite soft and gave an indistinct feeling of fluctuation. The rest of the growth was uniformly hard, but, on firm pressure over the tumor on the right side and in the roof of the mouth, a slight elasticity could be perceived. She was still quite well and suffered little pain.

During the last three years she has been under my observation during each of my terms of service at the hospital. As a result of this observation I had come to regard the tumor as benign, and decided to try to relieve her, though not knowing just what form the operation would take. I therefore, after consulting Dr. Mitchell, surgeon for in-patients, transferred her to my private practice.

January 4, 1891.—Having first secured the negatives from which Figs. 1 and 2 were made, I operated, *without ether*, with the assistance of Dr. E. S. Allen.

The first incision extended from well up within the left nostril diagonally downward, an inch and a half, toward the left angle of the mouth. Through this considerable material, soft and friable at the center, but harder on the circumference, was removed. Feeling the necessity for a larger curette or scoop than any I had at hand, I used with great satisfaction throughout the operation a common silver spoon with a smooth handle.

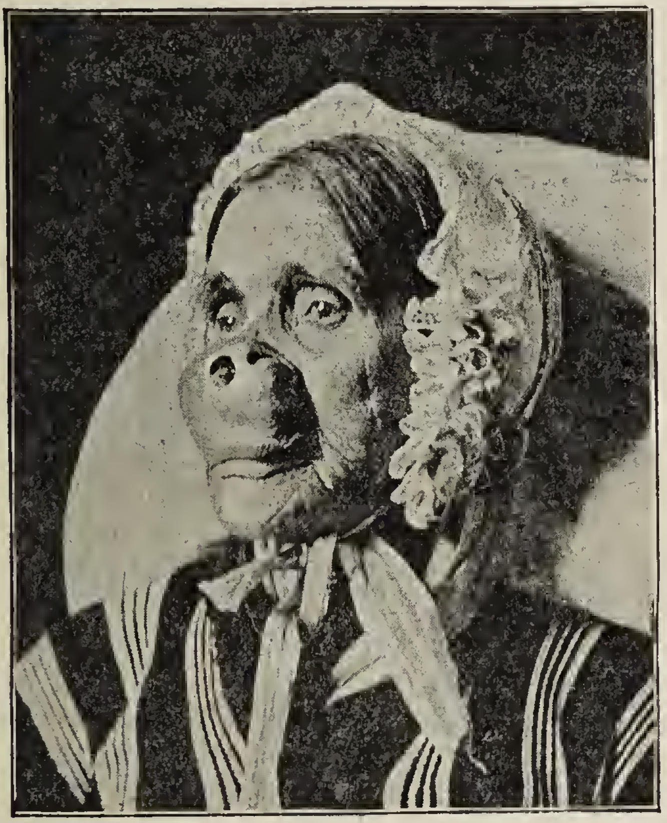


Fig. 2.

The growth proving multilocular, a second incision, precisely similar to the first, was made on the right side. The tumor here was much harder, but, being quite brittle, was easily removed piecemeal. A third incision, straight across the upper lip, was then made, connecting the other two, and the flaps dissected up. The mass in this situation was extruded almost entire by the aid of pressure from within the mouth. With its removal the face at once assumed something like its normal aspect.

There was now left a small mass well back over the hard palate and only to be reached from the mouth. As the patient was somewhat exhausted and the mass itself did no harm, it was decided to leave it. There had been but little hæmorrhage.

A very considerable portion of both superior maxillæ was found to have been absorbed owing to the pressure of the growth.

The H-shaped wound was now closed by a few sutures and dressed antiseptically. There was but little shock. Two days later I noticed a slight oozing from a spot in the roof of the mouth. This soon stopped. The sutures were removed and the dressings left off on the seventh day. On the ninth day the photograph showing the result was taken.

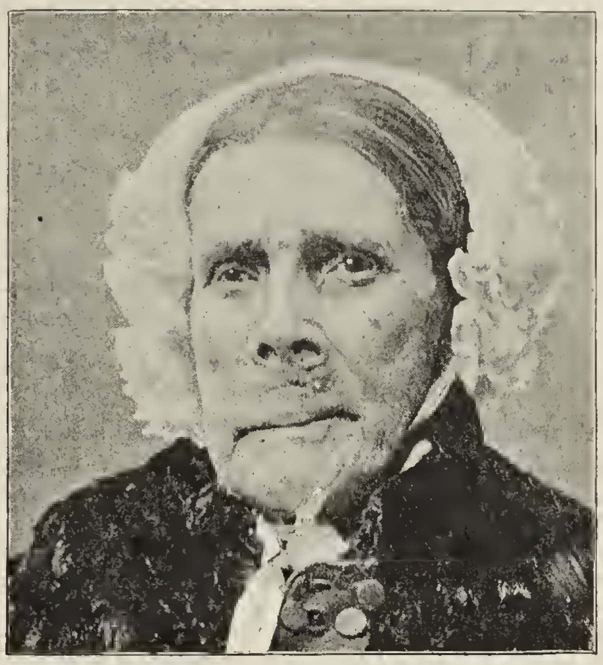


Fig. 3.

In all I removed six ounces of material by volume, or four ounces and a half by weight. It was dull-white, hard, brittle, and somewhat glistening, resembling cartilage. Portions were submitted to Dr. C. F. Peckham for microscopic examination. He reported it to be chondroma, with commencing calcification in some places.

March 22d.—Up to the present time, nearly three months after the operation, there has been no return. The patient's general health is greatly improved. She is in high feather, and as proud of her personal appearance as many younger daughters of Eve.

A CASE OF PERITYPHLITIC ABSCESS.

By Surgeon HENRY McELDERRY,
UNITED STATES ARMY,
POST SURGEON, WEST POINT, N. Y.

(*Published by authority of the Surgeon-General, U. S. A.*)

Cadet ——, U. S. Corps of Cadets, was admitted to the hospital at West Point, N. Y., on February 26, 1891, suffering with eye strain. Two days later he complained of intestinal colic, for which he was given a dose of castor oil, with the result of producing a copious operation from his bowels. A lot of undigested beans were passed which he had eaten before coming into hospital. The pain in his abdomen continued and tenderness developed to the right of the median line, in the region of the cæcum. He was put to bed, a hot flaxseed poultice, frequently renewed, applied to his abdomen, and tincture of opium administered internally at short intervals.

March 2d.—His temperature in the morning was found to be 99·5° F, and in the evening of the same day 101°. Next morning it was down to normal, and remained so until the evening of March 4th, when it rose to 99°, the pain and tenderness meanwhile continuing. His urine had to be drawn on March 2d, morning and evening, and for several days afterward. His temperature remained normal until March 5th, but fell to subnormal, 97·4°, on the next day. It rose the next morning to

98°, and remained so until the evening of the 9th, when it rose to 99°; and from this time on his fever gradually increased in intensity until the date of operation.

About March 5th a deep-seated induration, painful on pressure, was detected in the right iliac fossa, in the region of the cæcum and appendix. On March 7th a flaxseed enema produced a good evacuation of his bowels. The enema was only given to him after his expressing a desire to have a movement.

After March 9th this induration became more pronounced and better defined, but at no time could any fluctuation be detected in it. It was very deep seated. A flaxseed enema on this day produced a good evacuation of his bowels.

On March 13th, having become convinced that the patient was suffering from a deep-seated perityphlitic abscess, I had him put under the influence of ether, and made a more thorough examination, with the result of confirming the previous diagnosis.

An incision about six inches in length was therefore made through the abdominal walls running from a point an inch above and an inch to the inner side of the anterior superior spine of the ilium, on a line parallel with Poupart's ligament. The peritonæum being found, it was not opened, but pushed to the inner side. Upon careful dissection, the abscess was found behind the cæcum; it was freely opened and the contents—about an ounce of white creamy pus—were evacuated. The appendix was found in the lower portion of the wound, much swollen and indurated, but no impacted matter could be discovered and no opening could be found in the appendix or the cæcum. They were, therefore, not disturbed. The cavity of the abscess and wound was thoroughly irrigated and washed out with bichloride solution (1 to 1,000), and two rubber drainage-tubes, each about four inches in length, were introduced into the abscess cavity. The parts were then brought together with aseptic catgut sutures, and the wound was dusted with iodoform and dressed with iodoform and sublimate gauze. Three catgut ligatures only were required. The entire operation was performed under strict antiseptic precautions.

Twelve ounces of ether were used as an anæsthetic; time to produce anæsthesia, thirty minutes; time under the influence of the anæsthetic, an hour and a half. He came under the influence of the anæsthetic very slowly and unsatisfactorily. He vomited considerably. No other unusual symptoms were observed.

Upon the dressings being removed for the first time, on March 21st, eight days after the operation, the wound was found free from inflammation; the discharge, somewhat copious, was entirely free from smell, and the wound, except where the drainage-tubes protruded, was entirely healed by first intention. The wound and abscess cavity were thoroughly irrigated and washed out with bichloride solution, and the antiseptic dressings renewed as before.

Two days later the wound was again redressed antiseptically, the drainage-tubes being removed and the wound irrigated and cleansed. Six days afterward the wound was again redressed antiseptically, after being irrigated and cleansed. The drainage-tube openings were found about an inch deep, and granulating nicely from the bottom, the discharge being moderate in amount and free from smell.

It was again redressed six days later, on April 4th, by Assistant Surgeon Carter, U. S. Army, and the drainage-tube openings were found filled up to within a half inch of the surface. Six days later, on April 10th, the dressings were removed and the entire wound was found healed up, except a slight slit in the skin where the drainage-tubes had protruded. The skin at this point was brought together with a strip of rubber plaster, which being removed six days later, union was found complete throughout the entire wound. Upon a careful examination, all traces of induration had disappeared, and there was no pain on pressure about any part of the abdomen.

On the evening after the operation his temperature fell to normal. It rose above normal on the following day, but on the third day it again fell to normal, and remained so during his convalescence. He was allowed to leave his bed and sit up in an invalid chair on April 1st, and in a few days more was allowed to walk around the ward.

His diet from February 28th to ten days after the operation was confined exclusively to liquid nourishment, principally at first milk, and afterward chicken and beef broth and jellies. After April 6th he was allowed semi-solid food for a few days, and then resumed the ordinary special diet. His bowels were moved at intervals of two days after the operation by flaxseed enemata until April 10th, when an occasional dose of compound licorice powder replaced the enemata.

On April 10th, while still in hospital, he was allowed to take his meals in the cadet mess hall with the battalion, and on April 16th was allowed to attend recitations. On April 21st he left the hospital for his room in the barracks, being returned to duty, but excused on permit from his military duties for one month.

LAPAROTOMY ON A CHILD TEN HOURS OLD FOR THE CURE OF CONGENITAL UMBILICAL HERNIA,

WITH RECOVERY.

By JOHN R. HINKSON, M. D.,
BLISSVILLE, LONG ISLAND CITY, N. Y.

On February 12, 1891, at 7 A. M., the writer was called to see a female child half an hour after birth, its mother having been attended by a midwife. The child was healthy in every respect except for the presence of a tumor occupying the greater portion of the anterior abdominal wall. The tumor was covered by the expanded tissues of the cord and the peritonæum, and contained the liver and small intestines. It was elliptical in shape and projected an inch and a half beyond the surface of the abdomen, measuring fully two inches and a half in its transverse, and about four inches in its vertical diameter. It was not pedunculated, and extended from the ensiform appendix to within an inch and a half of the pubes. The covering was quite tense and semi-opaque, with a few small cysts. No vessels were visible, but the liver could be plainly felt at the upper part of the tumor, which was most prominent. The cord was in the median line at the inferior apex.

The parents were at first very averse to an operation, but, on being convinced that the child would certainly die within a few days if not surgically treated, they finally gave their consent at 11 A. M.

The operation was begun at 4.30 P. M. (the child then being ten hours old), with the assistance of Dr. J. M. Hawkes, Dr. P. J. McKeown, Dr. C. L. Clover, and Mr. Longenecker. Having induced complete anæsthesia, which occupied about a quarter of an hour, and washed the abdomen with a solution of mercuric chloride, the cysts in the covering were first punctured, allowing a little clear serum to escape. An incision was then made in the upper part of the tumor and enlarged by cutting on a grooved director sufficiently to admit a finger. About half an ounce of sanguineous serum flowed from the wound. On introducing a finger, some adhesions were found over the right lobe of the liver, which were easily broken up.

The umbilical vein was felt to the extreme left, midway between the superior and inferior extremities of the hernial opening, and the two hypogastric arteries were found in the median line at the inferior apex. The membrane adjacent to the vessels was then dissected away and the vessels were ligated with catgut, including the two hypogastric arteries in the same ligature, and the membrane was finally removed in connection with the suspensory ligament of the liver.

The intestines were kept back with sponges wrung out of mercuric-bichloride solution (1 to 20,000). They appeared to be congested, but there were no adhesions. The edges of the opening were then pared with scissors and the abdomen was closed by first introducing several interrupted sutures of catgut about the middle of the wound, which was afterward completely closed by a continuous suture of catgut. A drainage-tube was inserted between the stitches at the middle of the wound, which was dusted with iodoform and dressed with iodoform gauze and mercuric-bichloride gauze, a yard of each being wound several times around the body in the form of a bandage.

The closure of the abdomen proved to be an almost insurmountable task, on account of the great want of tissue, and the tension on the sutures was so great at the middle of the opening that, had they been immediately drawn tight enough to bring the edges in apposition, they would certainly have torn out. To avoid this difficulty, each interrupted suture was drawn as tightly as permissible and clamped with artery forceps, this procedure being repeated several times till the edges were finally approximated. During this part of the operation the intestines frequently escaped from the abdominal cavity, and were only replaced after repeated trials, much care being required to keep them from being tied in the sutures.

The operation occupied an hour and a half, during the whole of which complete anæsthesia was maintained. The child bore the operation remarkably well. The respirations were regular and did not become stertorous. The amount of ether used was a quarter of a pound.

After the operation the child vomited twice and then slept for about a quarter of an hour, after which it nursed well, and behaved in no way differently from any healthy child. The dressing was not disturbed for three days, during which time the child did well, and cried but very little.

February 15th, at 7 P. M.—The dressing, which was a little moist, was removed, but there was no pus or any offensive odor from the wound. The drainage-tube was removed and the field of operation washed with a 1-to-10,000 solution of mercuric bichloride. During this operation the child cried and strained vigorously, and when the fresh dressing was about to be put on, the catgut sutures, which had softened, gave way, none of them having pulled through, and the wound opened for nearly its entire length; but, since the intestines did not protrude, the peritonæum had probably already united. It was impossible to close the abdomen while the child was crying, so chloroform was administered (for no ether was at hand) and sutures of wire were inserted. The wound was then dressed in the same manner as before, and left untouched for five days, during which the child continued to do well and never showed any evidence of pain.

20th, at 6 P. M.—On removing the dressing, the wound had all healed except an inch and a quarter at the middle; here the wire sutures had cut through, the tension being greatest at this point, and the edges had separated, leaving an elliptical opening measuring nearly an inch at its widest part, the floor being formed by peritonæum covered by a fibrinous exudation which could not be removed by washing.

The sutures were all removed, and, ether having been administered, the opening was closed by three hare-lip pins inserted half an inch from the margin, but not passing through the peritonæum. The wound was then dusted with iodoform and dressed with iodoform gauze and mercuric-bichloride gauze. Strips of adhesive plaster an inch wide were put tightly around the child's body and crossed over the dressing.

At ten o'clock on the same evening the child was found to have refused to nurse and had cried incessantly. The breathing, also, was greatly embarrassed. It was concluded that the dressing was too tight, and it was immediately loosened, after which the child seemed to be quite at ease. This was the only time that any bad symptom was evident.

23d.—The dressing was removed. The hare-lip pins had cut through; the edges of the wound, which were now ragged and overhanging, were as far apart as on the preceding occasion, and the floor was still covered by a layer of fibrin.

The hare-lip pins were removed, and all efforts to keep the edges in contact abandoned, hoping that the wound might heal by granulation.

26th.—The child has a slight cough, but seems to be perfectly well in other respects. The edges of the wound, which were overhanging in some places, were touched with silver nitrate. The fibrin covering the floor of the wound is giving place to granulation tissue. Powdered iodoform was omitted from the dressing, as it was thought that the cough might be due to its presence. A flannel bandage was put tightly over the dressing and stitched in front.

28th.—The wound is smaller and its edges are continuous with its floor, but still ragged on the left side, where the hare-lip pins had cut through; here silver nitrate was again used. Dressing as on the former occasion.

March 2d.—The child still coughs a little. There is slight eczema of the abdomen, probably due to washing with solution of mercuric bichloride. Wound much smaller and edges even. Irrigation with hydrogen peroxide. Dressing as before.

After this date the dressing was changed every other day, peroxide of hydrogen being used for irrigation. The eczema disappeared and the wound was completely healed on March 14th, leaving a scar three inches and a half in length.

The writer has seen only one case that in any way resembled the one described. When he was a student, a case came under observation in which there appeared to be simply a loop of intestine in the cord. No operation was performed and the child died in a few days. He was also unaware at the time of the operation that a case in which the deformity existed to so great an extent had ever been recorded, and he has never heard of an anæsthetic being administered to so young a child.

The writer has since discovered the report of two similar cases, successfully treated, in the *Medical News* of August 3, 1889—one by Dr. J. M. Barton, of Philadelphia, in which the operation was performed thirty-three hours after birth; and the other by Dr. Stolypinski, entitled Laparotomy in a Child Sixty Hours Old. The latter operation was performed at the clinic of Professor Phaenomenoff, Kassan, Russia.

The child did not seem to bear chloroform so well as ether, the respirations becoming very rapid and superficial. Anæsthesia was induced in a few minutes, and consciousness restored in about the same time, when the chloroform inhalation was stopped.

In the future performance of this operation the writer would suggest that the abdomen be closed with sutures of silk or wire instead of catgut, the latter being too readily absorbed.

From the foregoing case it may be inferred that the new-born bear the administration of ether well, and that there is no reason for delaying the correction of congenital deformities on account of the dread of an anæsthetic.

HISTORY OF FIVE CASES OF BERI-BERI.

By W. J. PETTUS, M. D.,
PASSED ASSISTANT SURGEON, U. S. MARINE-HOSPITAL SERVICE.

CASE I.—C. S., aged forty-one, sailor for twenty-eight years, was admitted to the United States Marine Hospital, Chelsea, Mass., January 6, 1890, with beri-beri. He had been master of a bark trading on the west coast of Africa for seventeen months. Two months of this time were spent ashore at Elmina, Cape Coast Town, and Accra, all on the African coast. During the other fifteen months the vessel was either sailing up and down the coast or lying at anchor a mile and a half from the shore—in these places a sandy beach. Food of all kinds was plentiful, being easily obtained from the natives. Has always been a strong man, scarcely ever drinking. Weight before sickness, two hundred and twelve pounds; height, five feet and eleven inches. Had yellow fever eight years ago. Shortly after the arrival of the vessel on the coast he was attacked with African fever, lasting five weeks; after recovery occasionally had chills and fever. Five months ago had an attack of fever with troublesome vomiting, lasting one week. About December 1st, one month before admission to the hospital, he noticed a swelling of his feet and legs, with a feeling of soreness and stiffness. Walking was difficult, and his feet "felt like they were dead." Finally there was almost complete paralysis. During the voyage from the coast to Boston he sometimes was able to drag himself up on deck with assistance, and again would be completely paralyzed in his legs. During the middle of December he first noticed a numb feeling, beginning in both feet and gradually extending up the legs. Soon began to have sharp pains, running up the legs into his body. During this time nausea was very troublesome.

On the day of admission to the hospital his face looked well nourished, but he was unable to walk and was carried up to his bed. When assisted by a nurse on each side he would lift his feet high in trying to take a step, at the same time dragging his toes; complained of sharp pains in muscles of calves of legs and numbness over anterior tibial region, feet, and ankles. No rectal or vesical disturbances; mouth and gums normal; appetite good; was much worried by burning sensations, especially marked over back part of legs. Considerable atrophy of muscles in this region, also of forearm; œdema of legs and feet, very slight in the hands.

Over the inside of each thigh there was a subcutaneous extravasation of blood of considerable extent, but no tenderness. He said the cause of this was that he struck the parts against the sides of his bunk when getting in and out. Impulse of heart at apex very weak; lungs normal. Has anæsthesia of both hands, with great diminution in strength of grasp. Power of extension in fingers almost entirely lost, especially marked in middle and ring fingers of both hands. Knee-jerk absent; no ankle clonus. Just below the internal malleolus of the right foot there was an anæsthetic spot three centimetres long by two centimetres and a half wide. There was marked hyperæsthesia around the knee joints and upper part of calves of both legs; also over anterior region of thighs. Upon the use of a weak faradaic current in these regions great pain in the muscles was experienced. The muscles of legs gave no response to the current; very slight in those of the thighs. Contractions in forearm and hand much diminished. The galvanic current caused feeble reaction of degeneration in leg muscles.

His urine was decidedly acid in reaction; specific gravity, 1·031. Both Trommer's and the bismuth tests indicated sugar in considerable amounts. During his stay in the hospital there was no rise of temperature except on one occasion, when he had an ordinary malarial chill followed by fever, lasting four hours. Sensation to heat and cold was normal, except over small surface below internal malleolus of each ankle. Tests were made with water in two test tubes, one at temperature 42° F., the other 130° F. This case was examined by Surgeon Fairfax Irwin, Marine-Hospital Service, and Dr. J. J. Putnam, of Boston, both agreeing with me in the diagnosis. About the 15th of February a faint knee-jerk was detected, but after the use of the faradaic current for diagnostic purposes it disappeared, and he suffered for several days afterward with sharp pains in lower extremities. On March 1st knee-jerk again appeared, sugar disappeared from the urine, and he began to walk with the aid of crutches. On May 30, 1890, he was discharged recovered.

CASE II.—G. W., aged twenty-three, Austrian, was admitted to the hospital on September 22, 1890, from the bark Monrovia. His lower extremities were completely paralyzed and there was partial paralysis of arms. The vessel sailed from New York to Central America, the voyage occupying four months. They remained on the coast three months, either sailing up and down or at anchor half a mile from shore. He always slept aboard the vessel while there. Food was fairly good, of the usual kind. Four of the crew besides himself had the same sickness. The voyage back to Boston also required four months' time. During the third month of voyage on the return he first noticed a swelling of his feet; later, sharp pains in the legs. He gradually lost the use of the lower extremities. On admission, he was perfectly helpless; no rectal or vesical disturbances; knee-jerk absent. Complained of severe pains in muscles. General atrophy of muscles of legs and arms. Œdema of legs and body up to about the umbilicus was present, also slight in hands and wrists. He is at present in the hospital, nearly well. Knee-jerk just perceptible, and walks with slight tendency to drag the toes. There is still some anæsthesia over legs.

CASE III.—P. H. was admitted to the hospital on May 22, 1889, with same disease. His vessel had been lying in harbor at Buenos Ayres for two months. He went ashore occasionally. Two days after sailing he was taken sick with vomiting, nausea, and sweating. After having been about a month at sea he first noticed œdema of his legs; later there was pain and numbness. Paralysis of lower extremities gradually came on, and dyspnœa with a sense of oppression over his chest, which was very troublesome. On admission to hospital he was unable to stand or walk without assistance, and presented the usual symptoms of paralysis and disturbance of sensation. He was discharged recovered on September 16, 1889.

CASE IV.—R. K., aged thirty-one, German, was admitted to the hospital for treatment on August 10, 1890, with diagnosis of beri-beri. He was on a vessel four months from New York to Zanzibar; anchored at Zanzibar one month, while loading, and was about three hundred yards from the shore. Never slept ashore while there. Food was fairly good. Return voyage to New York also lasted about four months. On the way back the patient, as well as six more of the crew, was taken sick in the same way. He first noticed a swelling of the feet, with numbness. Condition on admission: Marked œdema of both lower extremities; complained of severe pains in calves of both legs. Spots of anæsthesia over anterior tibial region and about the ankles. Knee-jerk scarcely present at all. Partial paralysis of muscles of calves, with tendency to drag toes when walking. He left the hospital on August 19th, being able to walk without assistance. This was a very mild case.

Case V.—T. T., aged forty-two, nativity Norway, was admitted to the hospital on September 20, 1890, with diagnosis of beri-beri. He was unable to walk, having paralysis of lower extremities, with marked œdema over entire body. Had pains in calves of legs, and great dyspnœa. No bladder or rectal symptoms. During the ward visit the next morning he suddenly died while sitting in his chair. He had been on a prolonged voyage to Singapore. An autopsy was held twenty-five hours after death, at which Dr. J. J. Putnam and Dr. Carter, of Boston, were present. Lungs and pleura of both sides were normal. Both pleural cavities contained about 700 c. c. of clear serum. Pericardium normal. Its cavity was filled with 75 c. c. of serum. Heart hypertrophied, weight 570 grammes. Its muscular substance was flabby and pale; became perfectly flattened when laid on the table. One aortic cusp was the seat of a small vegetation; other valves normal. The patient weighed over two hundred pounds. Some serum in peritoneal cavity. Other organs normal. Dr. Putnam thought some portions of the sciatic nerve showed macroscopical evidence of inflammation.

Dr. E. Hebersmith, when a surgeon in the Marine-Hospital Service, in charge of the marine hospital at San Francisco, admitted eighteen cases of this disease to the hospital from the Brazilian man-of-war Vital de Oliveira. He wrote a full and interesting account of the cases, which was published in the report of the United States Marine-Hospital Service for 1881. He described the onset as gradual; first a tired feeling in lower extremities, then anæsthesia over anterior tibial region, and finally paralysis of muscles. Dr. Duane Simmons * described three forms of beri-beri—the wet, dry, and mixed types. Both writers think it is a disease of inanition, most common in tropical countries, where it is both endemic and epidemic. There is a strong similarity between beri-beri and multiple neuritis; and scurvy has some symptoms in common. The most prominent symptoms of this disease are identical with those of multiple neuritis, but the marked anæmia and degeneration of heart muscle, as well as the serous effusion into the pleural, pericardial, and peritoneal cavities, are not found in the latter disease. Like scurvy, it has the symptoms incident to inflammation of nerves, but there are no hæmorrhagic tendencies or sponginess of gums. In all of these cases the supply of food was good, and of the kind the sailors were accustomed to. In none of them were there any disturbances of the rectum or bladder. All but one had lost the knee-jerk, and that one was a mild attack, and the reflex was with much difficulty detected. Patients gave the same history as to the beginning of their sickness, a swelling of the feet and ankles being the first symptom noticed. The germ or miasm causing this disease must be of local origin, resembling that of malaria, and is but feebly infectious, if at all so. On one vessel having six cases aboard, all were attacked at nearly the same time, and though there were several other sailors aboard, none were subsequently seized with the disease. The germs in those who were attacked must have taken root before they sailed from Africa. On another ship there were five cases with almost the same history as the foregoing.

United States Marine Hospital, Chelsea, Mass.

---

* Pepper's *System of Medicine.*

SUPRACOTYLOID DISLOCATION.*

By JOHN RIDLON, M. D.,
CONSULTING SURGEON TO THE TRANSFIGURATION CLINIC;
ASSISTANT SURGEON TO THE VANDERBILT CLINIC, NEW YORK.

Dislocation of the femur directly upward is an exceedingly rare accident. Very few of the works on general surgery make any mention of this dislocation, and special treatises on dislocations are sufficiently barren of facts to make pardonable the recording of the following case:

George A. Simpson, sixteen years old, referred to me for an opinion by Dr. Charles F. Clark, of Brooklyn, was seen on May 3, 1890. About a year ago (*i. e.*, before the date of the examination), while attempting to bend backward, the feet being separated and the toes turned outward, he felt something give away at the right hip; he suffered some pain, but, after resting for a short time, was able to walk to his home. He was treated by liniments, iodine, and other external applications. He was able to walk about without much suffering, but at night at times had starting pains, and these gradually grew worse until he came under the care of Dr. Clark some eight weeks ago, since which time he has been confined to bed and treated with weight (fourteen pounds) and pulley; during this period he has been free from pain.

Examination.—The patient walks without any evident pain. The right leg is short, rotated outward, and is not swung in advance of the left in walking. The buttock at the back of the right great trochanter is flattened. Lying supine, the left thigh can be fully flexed on the chest without the popliteal space of the right leg leaving the table, and without the least discomfort. Active or passive flexion of the right leg is not possible to any appreciable extent. The limb lies rotated outward about 45°, and can be passively rotated outward to 90° without discomfort; inward rotation of the limb from the position in which it lies is not possible. The left leg is found to rotate outward to about 60°, but to lack inward rotation to the usual degree, it coming easily only so far as to bring the foot parallel to the antero-posterior plane of the body. Lying prone, extension of the thigh on the pelvis is free and to the normal degree; inward and outward rotation are as already noted. Backward passive bending of the lumbar spine normal. The right great trochanter is three quarters of an inch above Nélaton's line. Again lying supine, there is found to be three quarters of an inch shortening of the right limb when measured from the anterior superior spine of the ilium to the inner malleolus, and the same when measured from the umbilicus to the inner malleolus. Ten inches below the anterior superior spine of the ilium the circumference of the right thigh is seven eighths of an inch, and the calf a quarter of an inch less than the left. There is no lateral deformity—*i. e.*, abduction or adduction—of the limb, and very little passive motion in either direction. There is no apparent fullness in the right groin to sight or to superficial touch, but when the great trochanter is steadied with the fingers, the thumb being pressed firmly down over the point where the head of the femur ought to be found, and the limb passively rotated outward, the head of the femur can be distinctly felt to rise up with each outward rotation. The patient was referred back to Dr. Clark with notes of the findings, but passed from under his control before any further treatment was attempted.

I regret that I am unable to continue the record of the case. The gentlemen under whose care he has since been in a hospital in a neighboring city have failed to respond to my appeals for information as to the attempt at reduction of the dislocation under an anæsthetic and the two subsequent cutting operations. One fact, however, supplied by the patient himself under date of November 21, 1890, may be recorded—namely, that at that date, seven months after the operation, a sinus of the size and depth of a lead-pencil still remained.

---

* Read before the Hospital Graduates' Club, New York, March 26, 1891.

To recapitulate briefly: A heavy, rather flabby boy of sixteen years, with hip joints permitting unnatural outward rotation, and lacking normal inward rotation, stands with feet apart, toes turned out, and bends backward; the head of the femur slips from the acetabulum, probably with little, if any, rupture of the capsule, and finds lodgment just above the acetabular rim beneath the strong bands of the Y-ligament and the rectus muscle. He is able to walk immediately, and continues to walk for a year without much pain. Starting pains at night gradually come on, and are promptly relieved by recumbency and traction. Attempts at reduction by manipulation fail, and a sinus remains after a cutting operation is resorted to.

Supracotyloid dislocation may occur in either of three ways, and a failure to recognize this and the manner of occurrence of the dislocation account for much of the indefiniteness of the reported cases, and much of the difficulty in attempting reduction of the displacement. The first and most frequent form is that secondary to a backward dislocation and appears to result from extension, abduction, and outward rotation of the limb after the dorsal dislocation has occurred. In these cases the shortening is usually two or three inches, and the limb is held everted and somewhat flexed; further passive flexion to some extent is possible, and there may or may not be abduction, this depending upon the distance forward to which the femoral head has passed. In these cases the Y-ligament lies to the front of the head of the bone, and manipulation must be directed to return the bone to the dorsal dislocation before attempting to bring it into the socket. The next form, second as to frequency, is secondary to an anterior displacement, and results from the bone passing upward and somewhat backward. Shortening may be very little or very considerable, and there is eversion, usually extreme, abduction, and some flexion of the limb; the head of the bone can readily be felt and usually seen as a prominence below the anterior superior spine of the ilium. In this displacement the Y-ligament lies posterior to the head of the bone, and reduction must be accomplished by first returning the head of the bone to the position of an anterior dislocation. The third form, that of displacement directly upward, with the Y-ligament stretched over the head of the bone, appears, from the literature on the subject which one is able to find, to be a very rare occurrence. The manner of its production in the previously reported cases to which I have had access has been uncertain, and the manipulations to be resorted to for its reduction have been based on purely theoretical grounds. From the manner of production of the dislocation in the case reported it would seem to indicate that the limb should be strongly rotated outward, moderately abducted, and extended to its fullest extent, then rapidly rotated inward, flexed, and adducted to the normal antero-posterior plane. In fully extending a limb the pelvis must be fixed, and I know of no way of doing this so effectually as by flexing the opposite thigh strongly on the trunk of the patient and strapping it there. With the patient in this position the pelvis is easily steadied for any desired manipulation.

Only one further point needs to be considered—the differential diagnosis from fracture of the neck of the femur. In fracture of the neck of the femur the position of the limb is the same as in dislocation upward, but the disability of the limb is complete; the patient is totally unable to walk, while with the dislocation he walks with comparative ease, perhaps without any pain at all.

Bibliography.

Allin. *Arch. of Clinical Surg.*, April 15, 1877, p. 38.

American Jour. of the Med. Sciences, vol. xvi, p. 14.

Bigelow, H. J. *Dislocations of the Hip*, 1869.

Blasius. *Archiv für klin. Chirur.*, Bd. 16, Hft. 1, p. 207.

Bryant. *Surgery*, 1869, p. 761.

Cooper. *Surgical Dictionary.* Eighth edition, by S. A. Lane, 1861, vol. i.

Cooper, Sir Astley. *Dislocations and Fractures.* American ed., 1844, p. 88.

Cooper, Samuel. *First Lines*, vol. ii, p. 391.

Delgarde. *St. Barthol. Hosp. Reports*, 1866, p. 183.

Douglas. *Edin. Med. Jour.*, December, 1843, p. 1064.

Gibson. *Surgery.* Sixth Amer. ed., vol. i, p. 386.

Guy's Hosp. Reports, 1836, vol. i, pp. 79–97; 1838, vol. iii, p. 163.

Hamilton. *Fractures and Dislocations.* Sixth ed., 1880, p. 785; 8th ed., 1891, by Stephen Smith, pp. 687, 726, 727, 729, and 740.

Harcourt. *Buffalo Med. and Surg. Jour.*, vol. x, February, 1871, p. 241.

Kammerer. *N. Y. Med. Jour.*, February 16, 1889, p. 175.

Kronlein. Poinsot. French ed., p. 1076.

Lente. *N. Y. Med. Jour.*, November, 1850, p. 314.

Lancet, 1840, vol. ii, p. 281; 1845, vol. i, p. 412; vol. ii, p. 159; 1848, vol. i, p. 184.

London Med. Gaz., vol. x, p. 19; vol. xix, pp. 657–659; vol. xxxiii, p. 404.

Malgaigne. *Traité des fract. et des lux.*, tom. ii, pp. 869 *et seq.*

Medico-chirurg. Trans., vol. xx, p. 112.

Milner. *St. Barthol. Hosp. Reports*, 1874.

Morgan. Pirrie's *Surgery.* Amer. ed., 1851, p. 276.

Philadelphia Med. Ex., No. 51.

Shrady. *N. Y. Med. Jour.*, January, 1860, p. 254.

Skey. *Surgery.* Amer. ed., 1851, pp. 110 *et seq.*

Stimson. *Dislocations*, 1888.

Warren. *Boston Med. and Surg. Jour.*, vol. xxiv, p. 220.

337 West Fifty-seventh Street.

The New York Academy of Medicine.—At the next meeting of the Section in Laryngology and Rhinology, on Tuesday evening, the 26th inst., Dr. Benjamin F. Westbrook will read a paper on The Clinical Relations between Pathological Conditions of the Nose and Trigeminal Neuralgia.

At the next meeting of the Section in Obstetrics and Gynæcology, on Thursday evening, the 28th inst., Dr. Henry C. Coe will read a paper on The Care of the Bladder before and after Labor, and Dr. Florian Krug will read one entitled Personal Experience with Vaginal Hysterectomy.

NOTES ON ARISTOL IN THE TREATMENT OF THE DISEASES OF THE NOSE AND THROAT.[*]

By WENDELL C. PHILLIPS, M. D.,
ASSISTANT SURGEON TO THE MANHATTAN EYE AND EAR HOSPITAL, THROAT DEPARTMENT.

Nearly every month a new antiseptic is presented to the medical profession, each purporting to outdo all its predecessors and to be perfect in all its attainments. But experiments have proved most of them to have one or more obnoxious qualities that greatly interfere with their usefulness in the sphere for which they have been recommended. One, if used in sufficient strength to become a true antiseptic, is found to be a local irritant. Another corrodes the instruments, and, unless great care is used, will poison both the patient and the operator. A third is accompanied by an odor so pungent and disagreeable that few patients will submit to it, and the usefulness of still another is greatly lessened by the staining to hands and clothing that results from its use. All of the earlier antiseptics were handicapped by their poisonous qualities, and consequently could only be used to a limited extent.

Aristol, one of the more recent ones, possesses some qualities that have attracted the attention of various observers, and a combination of the drug has been suggested by the writer that is bringing about good results both in nasal and in general surgery which will be described in a later part of this paper.

Aristol is a combination of iodine and thymol, and is known as an iodide of thymol. It was first suggested by Dr. Messinger and Dr. Vortman, of Aix-la-Chapelle, as a substitute for iodoform. It is described as a "fine, yellowish-red powder, which is inodorous and non-toxic." It is insoluble in glycerin and very sparingly soluble in alcohol, but very soluble in ether, chloroform, and fatty oils.

It is decomposed by heat and light, and after decomposition its odor is similar to that of iodoform. Reports of its use in the treatment of diseases of the skin, ear, and mucous membranes of the nose, throat, and vagina have come from various sources, and the consensus of opinion is that it is non-toxic, and that its antiseptic properties are equal, and in some cases superior, to those of iodoform.

Lowenstein[†] used it in three cases of simple ozæna by insufflation, and says "after a few days the fœtor had disappeared, the formation of crusts was reduced, and the headache ceased." He had also used it in solution with ether, in the proportion of a drachm to the ounce, with good results.

Hughes[‡] also used it by insufflation in nine cases of rhino-pharyngitis accompanied by ozæna, and reports "great relief in all the cases; the fœtor was greatly reduced and the crusts were easily removed." He believes it to have the power to stimulate the secretion of mucous membranes.

Rorer[#] reports twenty cases of acute catarrhal otitis media treated with insufflations of aristol in powder, and notes that "the secretion is quickly reduced in quantity, the mucous membrane of the middle ear becomes smooth, and the swelling disappears in a few days; the perforation heals if there was no great loss of substance."

Brocq reports a case of large ulcerating superficial epithelioma of the face rapidly cicatrized by the use of aristol, and believes it to possess the power of causing rapid cicatrization superior to anything that has heretofore been used in similar cases, but does not consider it a specific for the disease. He further remarks that "the most remarkable evidence of the cicatricial power of aristol is observed in superficial ulcerations of a tuberculous origin. Thus, in a case of elephantiasis of the foot, the ulcerations, which had been treated for a long time with lactic acid, camphor, naphthol, and iodoform, respectively, were cicatrized within a fortnight by the application of powdered aristol."[*]

Another tuberculous ulcer, developing on an old scrofulo-tuberculous cicatrix, has been healed in twelve days.

It has also been used by Gaudin, Seifert, Erchoff, Schirren, and Neisser in various skin affections.

The method of using it has been chiefly in powder, but in some instances it has been made into an ointment, in varying proportions, and, when a solution was required, in ether, chloroform, or flexible collodion.

My experience with the drug dates from August, 1890. I first used it at the Manhattan Eye and Ear Hospital, in solution in flexible collodion in the proportion of a drachm to the ounce.

Several cases of chronic atrophic rhinitis with ozæna, one case of syphilitic ulceration of the septum, and one case of simple ulceration of the septum were treated with this solution by means of a cotton-wrapped probe. In the cases of ulceration of the septum the results were good, and healing was accomplished in both.

In the cases of ozæna (and I speak of ozæna as a symptom, not as a disease) the results were not so satisfactory, but were sufficiently good to warrant a further use of the drug. The odor was very much lessened after a few days' treatment, and the secretion became less inspissated.

These comparatively favorable results led to the conclusion that, if aristol could be brought more thoroughly into contact with the entire surface of the diseased membranes, far more could be accomplished, both in correcting the disagreeable odor and perhaps in destroying the cause of it, by bringing the membrane into a healthier condition. To bring this about, no matter what remedy is to be used, it stands to reason that it must be brought into contact with the entire diseased surface, and, as a rule, a very large surface of the nasal tract is in a diseased condition in cases of chronic atrophic rhinitis.

The anatomy of the nasal cavities, with their various projections, depressions, processes, and fossæ, is such that a thorough application can not be made with a cotton-wrapped probe. Treatment by insufflations, as recommended by several of the gentlemen previously mentioned, is preferable, and I have resorted to it in several cases, but found it difficult to make a thorough application without using a large quantity of the drug, much of which would be wasted, and its expense will not allow of waste.

---

[*] Read before the Medical Society of the State of New York at its eighty-fifth annual meeting.

[†] *Int. klin. Rundschau*, May, 1890.

[‡] *Deut. med. Woch.*, 1890, Nos. 10 and 19.

[#] *Archivas Internacionales de Laryngología*, 1890, No. 2.

[*] *Bull. et mém. de la soc. méd. des hôpitaux de Paris*, May 1, 1890.

It has become an axiom in the treatment of nasal diseases that, of all the methods resorted to for local medication, none are to be compared, for either convenience, thoroughness, or effectiveness, with the spray. Believing this to be true, and believing also that if aristol could be used in the nasal cavities by means of a spray much more could be accomplished in the treatment of the cases under consideration, I endeavored to get a solution of the drug that could be used for spraying and would at the same time remain permanent.

Knowing that the liquid petroleum products have, deservedly, largely taken the place of aqueous solutions for spraying purposes, and knowing also that the same principles that obtain when menthol, eucalyptol, etc., are used in solution with liquid petroleum would hold good with aristol, I suggested to W. H. Schieffelin & Co. that they make, if possible, a solution of aristol in benzoinol. At first they succeeded to a slight degree only, by first making a solution with a small quantity of pure almond oil, and afterward adding the benzoinol, but they have increased the percentage of aristol. They now have a solution containing thirty-eight grains to the ounce on the market, and this is as strong as can well be used with an ordinary spray apparatus. The solution can also be made with any form of liquid petroleum.

Van Horn & Ellison, druggists, are able to make a still stronger solution, three drachms to the ounce, which is being used for surgical dressings by several of our surgeons, both in private and in dispensary practice.

I have at present ten cases of ozæna under treatment with sprays of aristol in liquid petroleum, thirty grains to the ounce. Eight of these are the ordinary type of this condition. One is due to inherited syphilis, with an obstruction due to a deflected bony septum, with partial adhesion of the soft palate to the posterior wall of the pharynx; and the other patient is supposed to have a piece of zinc plate imbedded in some portion of the nasal tract, which I have been unable to find. In this case the odor was so fœtid that the patient could detect it herself. In fact, all of these cases are of a severe type, and presented large collections of inspissated crusts. At the first visit the crusts were removed before using the aristol spray, but afterward little was done except to use the spray. The patients are taught to use the spray properly at home, and are directed to use it night and morning. Much depends upon the way in which it is used, and patients should be instructed to inhale the spray.

The results so far obtained have been similar in all the cases.

The odor of the breath in every case has entirely disappeared in from two to five days, and has not returned, but the patients are still using the remedy; consequently it is impossible to state how permanent this result is. However, if the ozæna can be held in check only by the daily use of aristol, more is accomplished than has ever been done before.

The formation of crusts has also been greatly lessened in every case—a fact that is probably due to the stimulation of secretion caused by this drug. It is certainly true that aristol excites a copious secretion from all mucous membranes, but the secretion is less noticeable from the nasal than from other membranes, notably the urethra. This power to induce a more copious, and therefore a healthier, secretion lessens the formation of crusts, and by so doing it also lessens the odor which comes from the decomposition of the secretion. This result tends to a healthier condition of the membranes, because the secretions do not remain in contact with them until they decompose.

I venture to predict that, if aristol proves to be possessed of actual curative properties in catarrhal diseases, the results will come from its power to stimulate secretion as well as from its disinfectant properties. That it is a useful agent can not be denied, but conclusive judgment can not be passed until it has been given a longer trial.

161 East Thirty-seventh Street.

THE WATERS OF MARIENBAD (BOHEMIA) IN THE TREATMENT OF OBESITY.

By E. HENRY KISCH, M. D.,
EXTRAORDINARY PROFESSOR OF BALNEOLOGY IN THE UNIVERSITY OF PRAGUE; CONSULTING PHYSICIAN AT MARIENBAD.

The true value of the mineral waters at Marienbad (Bohemia) is especially demonstrated by the marked benefits arising from their use in removing obesity (lipomatosis universalis, obesitas nimia), for which Marienbad is much resorted to. On account of their chemical composition, the Kreuzbrunnen and Ferdinandsbrunnen at Marienbad belong to the cold alkaline saline mineral waters, among which they take *first rank.* Their action in the treatment of obesity is produced by the *sulphate of sodium*, by removing the fat accumulated in the subcutaneous areolar tissue and other organs.

Comparing the *Kreuzbrunnen* at Marienbad with the *Carlsbad* waters, we know that its most essential component is the sulphate of sodium, thirty-eight grains in sixteen ounces of the water, or twenty grains *more than in the same quantity of the famous Sprudel*, besides which the Kreuzbrunnen contains a greater amount of chloride of sodium and bicarbonate of sodium. Dr. Hufeland, one of the greatest medical men of Germany, has repeatedly called Marienbad "the cold Carlsbad." The Carlsbad waters act less on the bowels than the Kreuzbrunnen.

Persons affected with disposition to general fatness belong to the constant visitors of Marienbad, and it is certain that the superfluous fat of the body soon disappears under the use of our mineral waters. There is usually a decrease of weight from fifteen to thirty pounds, and a decrease in circumference round the belly of from six to eight inches in Marienbad, in very fat persons, during a course of from four to six weeks.

The Marienbad waters are more particularly suited for the *plethoric form of obesity* consisting in the abnormal and superabundant formation of fatty tissue, and its accumulation in the areolar tissue of the skin, as well as in different other organs of the body. This disease may be caused or, if already in existence, increased in severity by too good living, combined with insufficient bodily exercise; but it may also be developed independently of any such causes, as is proved by a great many cases. It may also have hereditary predisposition and, in the female, sterility and the change of life for its origin.

The symptoms are an enormous increase in size, verging upon monstrosity (men and ladies who weigh three hundred pounds are very common here), difficulty in walking and moving about, a pale and puffy countenance, and a disordered state of the intellectual functions. In the latter stages of obesity we see functional disorders of internal organs, such as difficulty of breathing, palpitation of the heart, affections of the brain, and in many instances mellituria (diabetes lipogenus).

Very common symptoms of obesity are *fatty liver* and *fatty heart.* We only consider these cases of fatty infiltration of the liver occurring in individuals otherwise healthy and well-fed, and caused by good living, the abuse of spirits, and a general tendency toward obesity—adapted to the treatment with Marienbad waters. The liver in such cases is enlarged in its entire circumference; its edges have lost their normal sharpness; there is no pain, but, by the pressure exercised on the stomach and the adjacent organs, a sensation of weight and tension usually is experienced in the epigastric region, accompanied by difficulty of breathing, dyspepsia, etc. Our alkaline saline waters reduce the formation of fat by increased oxidation, and thus we are enabled to reduce even a very large fatty liver to its normal volume and state. To accelerate the cure we also avail ourselves of Marienbad mud-baths and mud-cataplasms in the region of the liver to assist the internal action of the waters.

As concerns *fatty heart*, a layer of fat on the heart often causes shortness of breath, obscures the heart sounds, slows and weakens the arterial circulation, gives rise to a tendency to faintness, etc. By the action of the Marienbad waters the difficulty of breathing disappears when the weight of such persons has decreased, the heart-sounds become clearer, the pulse grows fuller and more frequent, and the general condition of the patient is more satisfactory.

Drinking the Kreuzbrunnen and Ferdinandsbrunnen, walking in the wood, little sleep, and a suitable diet cure obesity readily and surely during a course of one or two months at Marienbad. Such individuals of a plump and fat bodily constitution begin, by the use of Marienbad, to diminish in size and weight, and their abundant *embonpoint* is modified, so that they can resume exercise.

The treatment is to be adapted to each individual case. We must take this carefully into account. Great attention to diet and regimen is necessary. Fat people should adopt animal diet in moderation and avoid all fat, farinaceous, starchy, and saccharine food. Especially must cream, butter, cheese, brown bread, fatty or oily fish—such as sardines, herrings, haddock, mackerel, eels, salmon, carp, all fat gravies and sauces; fat meats—such as pork, goose, duck, wild birds, sausages; and thin puddings, cakes, pastries, patties, and pies be avoided.

An appropriate exercise is an important means to increase the energy of the muscular system and to diminish a superfluity of fat substance, to direct the process of oxidation more into the fatty parts.

PHYSICAL HYGIENE AND THE BICYCLE.

By A. D. ROCKWELL, M. D.

The right use of the muscles is a subject that has for years engaged the attention of hygienists, and one, too, that is perhaps better understood than almost any other branch of hygiene.

The Greeks well understood the importance of muscular training, and in their athletic sports gymnastics was refined to a science. Under the pressing needs of our rapidly rising civilization, attention has been variously and studiously recalled to the subject of physical development as a means of counteracting the excessive and unequal excitements with which nearly all brain work is more or less associated. Base-ball and boating clubs, yachting, gymnastics light and heavy—all these methods of muscular exercise are now developed into sciences, and, when rightly studied and practiced, may become invaluable means of training the body and preparing it to meet with less peril the toils of modern society. The modern system of training has not been without errors in regard to the relation of the quantity and quality of the food and drink to muscular strength.

Gross blunderings of creed and practice have been held, and the violence to which all these games and sports are pushed has wrought evil that has mingled with the good, and much disheartened the friends of enlightened physical culture. And yet, on the whole, the accepted views and customs of this matter of exercise are at present more nearly correct than in any other branch of hygiene. Extremes have gone down, wild excesses have been discontinued, the hideous and distasteful have given way to the comely and agreeable, and in all directions there has been a tendency to sift, to prune, and to reduce to a finished whole the science of physical training.

Almost every form of physical exercise has its enthusiastic advocates who base their opinion of its superiority over other methods either upon the ground of healthfulness or pleasure. The young and vigorous, who "know not of their health," give little thought to the *method* of exercise so long as it meets the requirements of pleasure alone, and therefore the billiard-room and the bowling-alley possess attractions to a host of young men who imagine that they are fulfilling the various necessities of physical exercise by punching billiard-balls in a hot and close atmosphere surcharged with tobacco smoke, or bowling in some underground alley way.

All indoor athletics are, at the best, but a poor sort of makeshift for the attainment and preservation of health. The perfection of bodily and mental activity can be successfully wooed and kept only in the free open air and bright sunshine. Even the gymnasium, with its rational and thoroughly systematized methods and its corps of well-trained instructors, falls far short of accomplishing the best possible good for the miserable dyspeptic with his lazy liver, or for that utter exhaustion of the nervous system which is such a frequent result of a busy life in our restless, rushing civilization.

Physical exercise, to be beneficial, must in no way be perfunctory. The daily walk to and from one's business is a relief and a benefit, no doubt, but how stale and unprofitable it becomes after a time! There are four things which few men learn early, and the majority never, and these are: How and what to eat and drink, and how and when to exercise the body.

Every sensible and observing physician, the longer he lives, must become more and more convinced that the cause and cure of the majority of the ailments that afflict humanity depend very much upon food and drink and habits of exercise. No saying is more trite than that men and women take too much medicine. They take many times too much, and too often the diseases and symptoms of disease for which relief is sought by this indiscriminate dosing are stimulated into increased activity.

The writer would by no means convey the impression that drugs are valueless, nor that there is not the widest range for their judicious administration. He simply protests against the impertinence of constantly interfering with the prerogatives of Nature. What sort of a teacher would he be considered who was always solving his pupils' mathematical problems or translating his Latin exercises? A vigorous intellectual growth is not stimulated in this way, no more than physiological functions are excited to a healthful activity by the artificial aid of pernicious poisons indiscriminately and persistently repeated. Our body is simply an incessantly active furnace, and the crucible through which its fuel must pass to be consumed is the liver. If the consumption is imperfect and incomplete, very much the same thing takes place in this human furnace as in the furnace that heats our house. If the draught in the latter is insufficient, the combustion is imperfect, and the coal, instead of being reduced to fine ashes, remains in the form of half-burned cinders, and materially interferes with the efficiency of the whole heating apparatus. In the human body the evil results of an imperfect combustion are far more widespread and complex than this.

Besides the obstruction to the portal or liver circulation, the imperfectly transformed products of digestion, circulating through every portion of the system, poison both brain and body. This it is that causes much of the irritability and unreasonable outbursts of temper among men.

Now, what the coal, and the draught which acts as the efficient factor in consuming it, are to the furnace, such are food and adequate muscular exercise to the body. What a simple statement and yet how true, and how few give it more than a passing thought! It is a fact so important that, misunderstood or its suggestions neglected, more misery, mental and physical, are entailed and more lives destroyed than can be told. That old and vigorous exemplar of the benefits of simple living, Hannibal Hamlin, spoke truly when at a recent banquet in this city he said that "gluttony killed more men than intemperance," for where one is intemperate a hundred overeat.

If men would be strictly temperate in eating and drinking, taking the simplest food and no more than is absolutely necessary to repair the ordinary waste of the body, the healthful activity of its various functions could be maintained with the minimum of muscular exercise. This Spartan simplicity of diet, however, is seldom attempted.

The appetite is a capricious master, and the difficulty is that the table offers temptations to eat and drink a far greater amount than this human furnace of ours can take care of without a very active draught in the shape of bodily exercise. The title of this article is Physical Hygiene and the Bicycle, but, like Artemus Ward, in his lecture on Sixty Minutes in Africa, in which he said nothing about Africa, I have said nothing about the bicycle. And yet he who reads and has appreciated, as the writer has, the pleasure and lasting benefit that come through this form of exercise, will easily see *bicycle* written between all the lines. Upon that subject, indeed, I claim the right to speak with authority, since for years I had felt the necessity of counteracting in some way just such a condition of affairs as I have briefly attempted to portray. The gymnasium, horseback riding, pedestrianism—all these have at various times been attempted with more or less enthusiasm and persistency, and not without avail, but never until I purchased a bicycle and learned its use did I get the best return in health and pleasure. It is not less exhilarating nor more exhausting than horseback riding, and, contrary to the frequently expressed opinion of those who had no practical experience in this direction, it brings into active play a greater number of muscles than almost any other form of rational athletic sport.

If anything was wanting to render more complete my enthusiasm over the delights and benefits to be derived from the bicycle, it was supplied in abundant measure last summer by a ride of two hundred miles or more through the Berkshires. Having mapped out our route by the aid of one of the numerous road and guide books which give very accurate information as to the character of every road, a party of five of us started with our Columbias by train for Great Barrington. Reaching that place at noon, we wheeled to Lenox, where we passed the night.

The next day found us on our way through Pittsfield to North Adams, where an excellent dinner and a night's rest prepared us for the third day of our outing. On a road as smooth as concrete and following the trend of the mountain range, from which the summit of old Greylock towers high above its fellows, we passed through the charming village of Williamstown, and thence through one of the most beautiful and picturesque of valleys to the old town of Lebanon, with its springs and Shaker settlement. The fourth day of our ride was along the banks of a rapid stream through the Kinderhook valley to the town of Kinderhook, thence to the city of Hudson on the Hudson.

Having thus in four days easily completed two sides of the triangle of our journey, we began on the morning of the fifth day our ride over the third side, or base, *en route* for Great Barrington. Dining at a comfortable farm-house twelve miles from Hudson, we spent the night, some ten miles farther on, at the pretty little town of Hillsdale. A few miles out of Hillsdale we encountered the next day the first real work of our journey. Here we were confronted by a barrier of hills, over which no bicyclist, however skillful or strong, could hope to ride. For three miles we pushed our wheels before us until, finally reaching the summit, we found that we were to be many times repaid for the work so readily accomplished.

Not only was the view surpassingly beautiful, but, stretching out for miles before us to the valley below, we found the road as hard and as smooth as concrete.

A ride such as we then enjoyed is not to be had every day. Placing our feet upon the foot-rests and occasionally using the brake to check somewhat the rapidity of our flight, away we went like the wind for mile after mile. I have ridden behind race-horses, on locomotives, and on horses fleet and strong, but never before had I experienced such perfectly joyous and exhilarating emotions as in that swift ride down the eastern slope of the Berkshires. It was the very poetry of motion, and we wheeled to the steps of the hotel, whence we started just six days before, with keener appetites, more vigorous digestion, and in that condition of complete health only found when the collective bodily activities seem one, each organ performing its function unconsciously, unheeded.

A CASE OF SCROFULODERMA.

By JOHN DUNN, M.D.,
RICHMOND, VA.

In November, 1890, while a number of experiments were being made at the Richmond Eye, Ear, and Throat Clinic to determine the value of pyoctanin in eye affections of the negro race, the following case of scrofuloderma presented itself at the clinic, and as the treatment brought out one or two interesting points, it has been thought worth while to report it somewhat in detail.

The patient, a mulatto boy, aged fourteen, belonged to a scrofulous family; his brother and sister had paid several visits to the clinic, and had unmistakable signs of a scrofulous diathesis. Several years prior to 1890 the glands in his neck began to swell, and in 1886 the skin under his chin and on either side of his face began to ulcerate; over the ulcerated surfaces formed scabs, beneath which foul-smelling matter would accumulate, and as the scabs did not fit very closely there was a more or less continuous discharge from beneath them. Various remedies, chiefly in the form of ointments, together with the usual internal treatment—syrup of the iodide of iron, cod-liver oil, etc.—had been tried without avail.

When the patient presented himself at the clinic there were three scrofulodermatous ulcers on his face and throat, and the scar of an old ulcer which had healed. One of the ulcers, circular in form, 25 ctm. in circumference, was situated on the left cheek, midway between the angle of the mouth and external auditory meatus. It was covered with a thick, loosely adherent, rough scab, pressure upon which would cause the exudation of a foul-smelling, sero-purulent matter. The removal of the scab caused the ulcer to bleed slightly. On washing away the matter from the surface, the ulcer was found to be covered with pale, flabby, unhealthy granulations. The edge of the ulcer was more or less undermined and notched. The skin surrounding the ulcer was thickened, though movable over the subcutaneous tissue.

The second of the ulcers was situated on the right cheek, at the angle of the jaw. It was oblong, 35 ctm. long, 20 ctm. wide. In general appearance it resembled the ulcer described above, only there were in several places small pockets running into the adjacent skin. The third ulcer, with the scar of the ulcer which had healed, extended, with an interval of perhaps 5 ctm. of healthy tissue in the submaxillary region, from the angle of the jaw on the right side to the angle of the jaw on the left side, following the line of the jaw bone. This ulcer had begun to heal at one end, and was not more than 20 ctm. wide. It had also pockets running into the skin at the sides of the ulcer. The lymphatic glands of the submaxillary region were greatly swollen, though nowhere broken down, nor did the ulcer on the neck communicate with them by a sinus.

I determined to see what effect pyoctanin would have on them. Accordingly, the ulcer on the left cheek was scraped and the overhanging edges of the skin were cut off with the scissors, as were also many of the granulations which did not come readily away by scraping. An application of five-per-cent. pyoctanin solution was made, and the patient told to return the next day. He did so. A new scab had formed and much sero-purulent matter had accumulated beneath it. A ten-per-cent. pyoctanin solution was applied, with the same result. This was tried for several days, when it occurred to me that the atmospheric germs must have much to do with this constant reaccumulation of matter and hardening of the scab over it; that, in all likelihood, the scrofulous ulcer formed an excellent breeding ground for certain of these germs. The ulcer was, accordingly, carefully scraped, and, when all the bleeding had ceased, a ten-per-cent. pyoctanin solution was applied. As soon as the solution had dried, the surface of the ulcer was covered with collodion.

The patient did not appear again for two or three days. The scab this time was hard and firm and adhered closely to the ulcerated surface. The ulcer appeared also to be somewhat contracted. The removal of the collodion scab, formed partly of collodion, partly of serum, and colored with pyoctanin, showed beneath it a fairly clear surface, with but a very slight secretion, and this without odor. After two or three more collodion applications, made as above, the surface of the ulcer became red and healthy, and by Christmas the whole ulcer had healed, leaving a more or less smooth scar, about two thirds the size of the original ulcerated spot. The thickened condition of the skin which surrounded the ulcer had disappeared.

The ulcer on the right side of the face was, on January 6th, scraped, cleaned, and treated as the above, with the exception that, instead of a ten-per-cent. solution, applications of powdered pyoctanin were made before the collodion was applied. This ulcer healed entirely by February 1st, though there seemed to be a tendency where the pockets had existed for the process to break out again. Both in this ulcer and in the one under the jaw, in two or three places, there existed small pus sinuses which seemed to burrow beneath the surface, from which the granulations took their origin. These most probably represented degenerated lymph channels. The resulting scab was from one quarter to one third smaller than the original ulcerated places.

The ulcer under the chin was—after being thoroughly cleaned, which could not be done all at one sitting, as it was much more sensitive than the other two had been, and much more disposed to bleed freely—painted with a saturated solution of pyoctanin and then covered with collodion. This ulcer healed kindly from the beginning of the treatment, though, on two or three occasions when the collodion was applied while the ulcer was bleeding, it was washed away from the bleeding spots. These spots were thus exposed to the air, and continued to form matter and discharge as long as they were left uncovered, showing very clearly the influence of the atmospheric contents on the ulcer.

If it is proper to draw inferences from one case, I would advise the following as the external treatment for scrofuloderma, promising, as it seems to do, a fair measure of success: The scabs should be removed from the ulcerated surfaces, which in turn should be thoroughly cleaned by scraping with a curette, and the use of a pair of curved scissors to remove the projecting shreds of tissue left by the curette. The unhealthy skin at the edges of the ulcer should be carefully cut away. Should the pain, which in the above-mentioned case was not severe at all, be more than the patient can bear, it will be best to clear the ulcer as much as possible, and repeat the curetting a second or third time, if necessary. As soon as the slight bleeding which follows the scraping ceases, the ulcer should be carefully dried, and then painted with a saturated solution of pyoctanin. As soon as the pyoctanin dries, or has nearly dried, pure collodion should be poured over the ulcer; a common eye-dropper answers well for this purpose. The collodion dries in a few minutes. The scab that forms now will be hard enough and adhere firmly enough to exclude the atmosphere and will remain adherent several days. I would advise that this dressing be applied daily until the surface of the ulcer assumes a healthy appearance, after which twice a week will be sufficiently often.

No profession is made here that pyoctanin has any specific action in scrofuloderma. Indeed, collodion would seem to have greater merits as a remedial agent in this affection than pyoctanin, for pyoctanin was of little value so long as the atmosphere was allowed to deposit its contents upon the surface of the ulcer. I am inclined to think that any antiseptic would act as well as pyoctanin, for the statements made for this substance—that it is "rapidly and completely diffusible in and permeant of animal tissues and fluids, and perfectly penetrant through all bacterial colonies therein"—I consider as very far from being proved. The pyoctanin has one advantage: it colors the collodion scab, and shows when the whole surface has been protected from the air. The use of powdered pyoctanin after the surface of the ulcer has assumed a healthy appearance is not to be advised, as it seems to be too irritant. Unfortunately, these suggestions as to treatment have only the value of a one-case article, but, in consideration of the difficulties usually met with in obtaining a cure of scrofulodermatous ulcers, the treatment may prove worthy of trial.

Cancer Remedy.—According to the *British and Colonial Druggist*, "Dr. Mortimer Granville has for some time been studying the properties of papaw juice, and he believes that in it he has discovered a possible remedy for cancer when used with some other preparations. The papaw is the *Carica papaya*, and its juice has long been known to possess the remarkable property of softening flesh, and the leaves are often used by the natives of tropical America to render meat tender by wrapping it in them. The organized ferment of the papaw juice is believed to be a bacillus; but Dr. Granville says that he has satisfied himself of the therapeutic value of the juice, or certain of its elements, as a solvent of the morbifically indurated tissues in cancer, when administered or applied in combination with an adjunct such as periodohymethyloxychinolin."

THE
NEW YORK MEDICAL JOURNAL,
A Weekly Review of Medicine.
Published by D. Appleton & Co.
Edited by Frank P. Foster, M. D.

NEW YORK, SATURDAY, MAY 23, 1891.

DISPENSARIES; THEIR USES AND ABUSES.

The evils attending the existence of an abnormally large number of dispensaries in New York, and the ease with which patients can obtain treatment at them, have been the subject recently of a mass of correspondence and articles in our journals. It seems to us, however, that the salient and worst evils of these institutions have not been touched upon. The cry has been that this wholesale free treatment of patients has a demoralizing tendency, making paupers of a large percentage of our population and robbing the medical profession of a source of income which by right belongs to it; further, that it makes the road for the hard-working, industrious, but impecunious physician the more difficult to travel, and that in time it will annihilate his existence.

Any one who knows anything about the members of the profession would sincerely deplore such a result as is expressed in the last intimation, for many of the ablest men in the profession have been those to whom the epithets "hard-working, industrious, and poor" could be applied. Again, the mischief wrought by making any class of persons dependent and thus destroying their spirit of self-reliance and independence is not to be underestimated. If a man able to work and earn a livelihood is made to feel that he may have free medicine and medical treatment, it will not be long before he grows to think that he ought to be supplied with raiment and food free of charge. He will soon look upon himself as a favored individual to whom the world owes a living, and will forget that the first principle of existence is labor.

But the system inflicts far deeper and more far-reaching mischief. If it pauperizes people from a monetary point of view, it pauperizes them even to a greater extent from a health point of view. Many a man or woman is rendered a pauper in health—in other words, a hypochondriac—by the injurious course followed perforce at most of the leading dispensaries. Let the attending physician be ever so conscientious and painstaking, if he has from twenty-five to thirty gynæcological patients, for example, to treat in the space of two hours, it stands to reason that his diagnosis, as well as his treatment, will be of a routine sort and superficial to a degree. Each patient will have from four to five minutes in which to arrange her clothes and be placed on the table in a suitable posture, examined, and treated; but she will have an hour or two in the waiting-room to compare notes with other patients and to magnify her ailments until she begins to believe that they are as bad as they depict theirs. In this way she becomes in a short time a dispensary habituée, as some women become morphine habituées. The writer has known women to attend regularly at a dispensary for a period of three or four years for some slight complaint, whereas a little more time devoted to the case by the physician would have resulted in the patient's dismissal in as many weeks. In some instances, and we regret to have to state it, the evil is fostered and encouraged by the attending physician; rivalry as to the largest class exists, not only between different dispensaries, but between the different men of the same dispensary. The board of directors frequently judge of a man's work —and they have no other standard—by the size of his class. If he allows this to fall far behind that of his colleague, he may find himself some fine day unceremoniously ousted, and self-preservation is, it is said, the first law of nature. The gynæcological department has been taken as an example because the evils attending it stand out conspicuously, but the same may be said of all the other departments. An oculist recently stated that he had attended upon eighty new patients that afternoon at a public institution. What a thorough and scientific examination each patient must have received, to say nothing of the treatment, which perhaps is the best thing to say of it!

These are some of the evils; what are the remedies? We can only suggest something like the following: Limitation of treatment at dispensaries to the actually indigent, and to those who are temporarily rendered so, either by sickness or by want of employment; education of the public to the idea that free medical treatment and free medicines are eleemosynary objects in the same way as free bread and raiment are, and that those who receive free treatment when they can afford to pay for medical attendance are robbing the actually poor of the physicians' limited time at the dispensary; limitation of the number of patients allowed to be treated during the service of one or two hours; a heightening of the sense of responsibility on the part of the physician toward the patients treated by him at the dispensary; and the suggestion to boards of directors that the standard of a man's work should be its quality and not its amount. These suggestions are all feasible and easy of achievement if only the more prominent medical men would act as if they fully realized the harm done both to the public and to the profession by the existing baneful methods.

MINOR PARAGRAPHS.

THE ORTHOPÆDIC DISPENSARY AND HOSPITAL.

Less than two years ago the trustees of the New York Orthopædic Dispensary and Hospital decided that the greatly increasing demands upon the institution required increased facilities and room, and they decided to enlarge both the dispensary and the hospital. In less than a year $43,000 was raised, and with this sum the property adjoining the old building, on the east, was purchased. Upon the rear of this lot a new and commodious dispensary room has been erected, thus doubling the capacity of the dispensary, the shop, and the boiler room. New boilers and increased facilities for the manufacture of apparatus were added to the mechanical department of the work, and the sun room for the use of the hospital inmates was greatly enlarged. The old building, upon the newly acquired lot at No. 128 East Fifty-ninth Street, however, remained untouched, as it was not in fit condition for hospital use; and while the trustees were debating as to the best course to pursue, one of New York's most benevolent ladies, Mrs. W. D. Sloane, volunteered to erect a new fire-proof hospital building at a cost of about $25,000. Since then one of Dr. Shaffer's patients has contributed $25,000 to endow five free beds in perpetuity, so that the $100,000 which the trustees set out to secure as a building and endowment fund has been very nearly raised. The sum of $10,000 is now needed to make the necessary alterations in the old dispensary and hospital, and to equip the building with all the modern appliances of advanced orthopædic surgery. The plans and estimates have been accepted and the contracts awarded. The new building will be erected during the coming summer.

THE SURGICAL TREATMENT OF TRACHOMA.

Dr. Darier, the chief of M. Abadie's clinic, advocates in the *Progrès médical* the treatment of very bad cases of trachoma according to the method introduced by Professor Sattler. It is sufficiently severe to require ether or chloroform anæsthesia. The first step is to enlarge the palpebral fissure by a cut with the scissors at the outer canthus, in order to permit of complete eversion of the eyelid so as to fully expose the whole of the conjunctival surface. To lay bare the superior *cul de-sac*, a special forceps is needed. The lid is seized with this and rolled upward by a double rotation of the instrument. Deep scarifications are then made parallel to the palpebral edge, so as to allow the infiltrated subconjunctival tissue to protrude, and to save the conjunctival surface. The protruding tissue is then scraped away with a curette and the entire scarified surface is brushed vigorously, but carefully, with a brush made of short, stiff bristles, kept saturated with a 1-to-500 corrosive-sublimate solution until not a single granulation remains so far as the eye can detect. The dressing is very simple. Cold compresses are kept on the eye for the first two days; on the third day the lids are everted and washed with the 1-to-500 corrosive-sublimate solution. This washing is very painful, as the lids are greatly swollen, ecchymosed, and difficult to evert. This is repeated daily for one or two weeks, and at the end of that time the patients are generally cured. This treatment is not advocated for every case of trachoma, but only for those that resist all ordinary forms of treatment. If pannus or corneal ulceration is present, a remarkable improvement is said to take place very quickly. The future must show whether the cure is radical and permanent.

AMPUTATION AT THE HIP JOINT WITH PRELIMINARY LAPAROTOMY.

In the May number of the *University Medical Magazine*, Dr. Neal Hardy, of Upper Sandusky, Ohio, gives an account of a case in which he successfully performed amputation at the hip joint for a recurrent lympho-sarcoma, recourse being had to abdominal section in order to give an opportunity for the absolute control of hæmorrhage by immediate compression of the aorta.

ETHER-DRINKING IN IRELAND.

It has been affirmed that in Draperstown district, County Derry, out of a population of 9,500, there are 6,200 ether-drinkers, and that persons of all classes, the clergy, the gentry, ladies, and the working classes, are victims addicted to the vice. This statement and others similar in character relating to the practice of drinking ether in various portions of the north of Ireland are, however, grossly exaggerated, and, although a good deal of ether-drinking takes place, it is very trifling in comparison to what has been alleged. Ether-drinking causes irritation of the stomach and a liability to gastric ulcer. The ether used is a vile compound, being made from methylated spirit, and costs about two shillings a pint. Ether-drinkers appear to select ether instead of whisky because it is so very much cheaper and they can become intoxicated sooner, while the stage of inebriety is very much shortened.

THE LONG ISLAND COLLEGE HOSPITAL.

We are informed by the secretary of the faculty that the regular course of lectures will hereafter be six months in duration, and that attendance on three such courses will be required for graduation; and that Dr. Joshua M. Van Cott, Jr., has been appointed professor of histology and pathological anatomy, succeeding Dr. Frank Ferguson, who has resigned.

ITEMS, ETC.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported during the two weeks ending May 19, 1891:

DISEASES.	Week ending May 12.		Week ending May 19.	
	Cases.	Deaths.	Cases.	Deaths.
Typhoid fever	10	4	20	2
Scarlet fever	210	28	238	28
Cerebro-spinal meningitis	4	3	5	4
Measles	348	17	378	20
Diphtheria	116	34	69	15
Small-pox	0	0	1	0
Varicella	2	0	4	0
Whooping-cough	1	9	1	11
Mumps	2	0	0	0

The New York State Medical Association.—At the annual meeting of the Fifth District Branch, in Brooklyn, on Tuesday, the 26th inst., there will be an address on Opiates in the Treatment of Acute Peritonitis, by the president, Dr. Stephen Smith, of New York, also papers as follows: Cathartics in the Treatment of Acute Peritonitis, by Dr. A. Palmer Dudley; The Treatment of Hydrocele by Carbolic Injection *versus* the Radical Operation, by Dr. Samuel E. Milliken; Scarlatinal Diphtheria and its Treatment, by Dr. E. G. Rave; Practical Results of the Operation for Lacerated Cervix Uteri, by Dr. H. W. Mitchell; Objections to Ordinary Axis-traction Instruments, also the Advantages of the Use of the Anticraniotomy Forceps over Version in Pelvic Deformities, by Dr. T. J. McGillicuddy; A Case of Obstinate Neuralgia following Fracture, relieved by Operation, by Dr. Reginald H. Sayre; and Acute Prostatitis and Prostatic Abscess, by Dr. William R. Ballou.

The South Carolina Medical Association will hold its next annual meeting at Anderson, on the 9th of June. It is announced that Dr. John Ashhurst, Jr., of Philadelphia, will deliver an address. The Association of Confederate Surgeons and the State Board of Health will hold their annual meetings in Anderson at the same time. The attendance at these meetings ought to be large.

The New York Post-graduate Medical School and Hospital.—Dr. H. J. Boldt has been made professor of diseases of women; Dr. William James Morton, professor of electro-therapeutics; and Dr. Augustus Caillé, professor of diseases of children.

Professor de Lanessan, the well-known naturalist, has, according to the *Union médicale*, been appointed governor-general of the French possessions in India and China.

The New York Polyclinic.—Dr. Robert H. M. Dawbarn has been elected professor of surgical anatomy and operative surgery.

Changes of Address.—Dr. Edward G. Day, to No. 27 West One Hundred and Twenty-eight Street; Dr. Carl H. von Klein, from Dayton, O., to No. 122 Euclid Avenue, Cleveland, O.

The Medical Herald.—Dr. Daniel Morton, of St. Joseph, Mo., announces his retirement from the editorship.

The Kentucky School of Medicine, of Louisville, will hold its commencement exercises on June 20th.

Army Intelligence.—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from May 10 to May 16, 1891:*

Bache, Dallas, Lieutenant-Colonel and Surgeon, is, by direction of the Acting Secretary of War, relieved from duty as a member of the Army Medical Examining Board, New York city, and will return to his proper station, Omaha, Nebraska, and resume his duties as Medical Director, Department of the Platte. Par. 5, S. O. 108, A. G. O., May 12, 1891.

Birmingham, Henry P., Captain and Assistant Surgeon. By direction of the Acting Secretary of War, the extension of ordinary leave of absence granted in S. O. 81, A. G. O., April 10, 1891, from this office, is changed to leave of absence on account of sickness, to date from May 1, 1891. Par. 4, S. O. 108, A. G. O., May 12, 1891.

McKee, James C., Lieutenant-Colonel and Surgeon, having been found incapacitated for active service by an army retiring board, is, by direction of the Acting Secretary of War, granted leave of absence until further orders on account of disability. Par. 11, S. O. 106, A. G. O., Washington, May 9, 1891.

Naval Intelligence.—*Official List of Changes in the Medical Corps of the United States Navy for the week ending May 16, 1891:*

Rush, W. H., Passed Assistant Surgeon. Detached from the Saratoga and ordered to prepare for sea.

Atlee, S. W., Passed Assistant Surgeon. Detached from Navy Yard, League Island, and ordered to the Saratoga.

Brownell, C. De W., Assistant Surgeon. Ordered to Navy Yard, League Island, Pa.

Streets, T. H., Surgeon. Detached from Naval Examining Board and ordered to prepare for sea.

Mackie, B. S., Surgeon. Ordered as member of Naval Examining Board.

Curtis, L. W., Passed Assistant Surgeon. Detached from Naval Academy and ordered to the Practice-ship Constellation.

Leach, Philip, Passed Assistant Surgeon. Orders to the U. S. Practice-ship Constellation revoked.

Society Meetings for the Coming Week:

Monday, *May 25th:* Medical Society of the County of New York; Boston Society for Medical Improvement; Lawrence, Mass., Medical Club (private); Cambridge, Mass., Society for Medical Improvement; Baltimore Medical Association.

Tuesday, *May 26th:* North Carolina State Medical Society (first day—Asheville); New York Dermatological Society; New York Academy of Medicine (Section in Laryngology and Rhinology); New York State Medical Association, Fifth District Branch (annual—Brooklyn); Buffalo Obstetrical Society; Medical Societies of the Counties of Queens (annual—Mineola) and Rockland (annual), N. Y.; Boston Society of Medical Sciences (private).

Wednesday, *May 27th:* Connecticut Medical Society (first day—Hartford); Kentucky State Medical Society (first day—Lexington); North Carolina State Medical Society (second day); New York Surgical Society; New York Pathological Society; American Microscopical Society of the City of New York; Metropolitan Medical Society (private); Auburn, N. Y., City Medical Association; Medical Societies of the Counties of Albany and Monroe (annual—Rochester), N. Y.; Berkshire, Mass., District Medical Society (Pittsfield); Philadelphia County Medical Society.

Thursday, *May 28th:* Connecticut Medical Society (second day); Kentucky State Medical Society (second day); North Carolina State Medical Society (third day); New York Academy of Medicine (Section in Obstetrics and Gynæcology); New York Orthopædic Society; Roxbury, Mass., Society for Medical Improvement (private).

Friday, *May 29th:* Connecticut Medical Society (third day); Kentucky State Medical Society (third day).

Letters to the Editor.

STERILIZED MILK FOR THE CHILDREN OF THE POOR.

32 East Thirty-first Street, *May 16, 1891.*

To the Editor of the New York Medical Journal:

Sir: I wish to call the attention of the profession to the fact that it will be possible to obtain sterilized milk for tenement-house babies for the price charged for impure milk. A circular has been issued, signed by Mrs. Felix Adler and others, in which it is stated that the Eastern Dispensary has set aside a room, and the necessary apparatus has been placed in it, so that it will be possible to produce a large quantity of this useful food. It is a gratifying thing to find such a sensible and useful charity in this city of much futile philanthropy. Whatever views we may have in regard to the evils of pauperization, they can not apply to the unfortunate babies, and the fact that pure milk will save much of the infant mortality during the summer months is sufficient reason for the expense entailed in this process.

The most important fact to be impressed upon the public is that this food is not alone needed for babies who are already sick. It is even more valuable to those who are well, but who are living in the unhealthy surroundings which obtain in our hot, crowded tenements. If a baby has cholera infantum it is doubtless better that it should have absolutely germ-free milk, but it is far more important to state the fact so emphatically and so clearly that even ignorant parents may understand that, save from their own carelessness, the child need not have cholera infantum. Of course, it will be a long while before an impression is made upon the mind of the general public which will lead to an intelligent and widespread use of this food. It will also be a long time before any great effect will be seen upon the mortality after the sterilized milk comes into pretty general use. Unfortunately, between the sterilizer and the infant there must intervene a nurse or mother, and in many cases this means a very careless and not very cleanly fool. Surely nothing could be simpler, one would think, than to follow the very plain instructions which are given to preserve sterilized milk absolutely pure until it is used. It does not need a very high degree of intelligence to leave the cork in a bottle, and yet it is safe to say that this moderate intellectual effort is far beyond the capacity of a large number of those who have the care of babies. A great deal of prejudice will have to be overcome, and the prejudice will be found not only among the poor and ignorant, but among the wealthier and more educated classes. The value of pure germ-free milk is hardly understood even by many members of the medical profession, and a great deal of discouraging work is to be done by those who appreciate it and wish to save babies' lives by making its use general.

The value of sterilization as a guard against the summer diseases of infants is now beyond any doubt. If we hope to reduce the great mortality among bottle-fed babies, we must first make it possible and easy for parents to get really pure milk, and, second, we must teach them how to use it and make them appreciate its value. It is not alone necessary to provide the milk, but, in addition, its use must be made the fashion. This is what is really meant when it is said that "public opinion must be aroused and educated, etc." The public, and especially that portion of it which lives in tenements, will not use the new sort of milk as a general thing until it has been judiciously forced upon them. It will not do to explain why it is valuable, or where it can be had, or that it costs no more than the ordinary contaminated milk. Among the poor and the rich many will not believe it of value, and many more will not understand. If, however, a certain number of neighbors are persuaded to take the milk, in a short time others will follow the example and feed their babies upon it simply because their friends do so. The point of importance is, that the babies get it. The reason why it is given them is of no account. The way to save the babies' lives, then, is to make the milk fashionable, and we need not concern ourselves in the least with any questions of whether or not the parents comprehend why they are giving it.

All the ordinary rules which are applicable to charitable methods must be modified when we come to deal with babies.

They are a kind of "assisted immigrant" to this country who come without any desire of their own, and we welcome them, even though some are likely to become a public charge. We feel that these helpless little ones are worthy of the gentle kindness which is so universally felt for children. They do not select their parents, and we have nothing to do with even the character of these latter. If it is possible to save a baby from suffering, if it is possible to save its life, we do so because of its helplessness and because we are sure that future generations, if not our own, will be improved and human misery diminished, if the children are well fed and live as free from disease as our knowledge will permit. It would be quite different should we undertake to give free sterilized milk or free food of any kind to adults. This charity does not give anything free except the cost of the labor and fuel employed in the preparation. In regard to the practical details of the plan, it is only necessary to say that the process is to be carried out under the direction of Dr. H. Koplik, whose name guarantees the work to be done. It has been expensive already and the work must be carried on at considerable expense, and the money must come from private sources. A considerable amount and apparently a sufficient start has been given this year, and the object of this communication is to enlist the aid of the medical profession, not so much in helping to supply the milk as in spreading and generalizing its use. At the same time I will quote from the circular the following sentences:

"The beneficent effects of the plan will be limited only by the limit of funds—the larger the amount at our command, the greater will be the quantity of milk distributed. It is proposed, however, not to give the milk as a charity, except in cases of need, but to charge a small price—one or two cents for the bottle—which would pay for the milk, but not for the labor."

"In order to provide necessary apparatus and pay for expenses of milk, labor, etc. (no outlay being required for rent, use of steam, and distribution—all of which are contributed by the dispensary), and in order to give the milk to those too poor to pay even the small price, contributions are earnestly requested."

The profession, which gives so much time and weary, often thankless, work to the poor, is not called upon to help with money. We can, however, explain to laymen what is being done, and should any of them wish to help the babies, Mrs. O. MacDaniel, of 1674 Broadway, will receive contributions.

J. West Roosevelt, M. D.

RAILROAD SURGERY.

104 Royalston Avenue, Minneapolis, Minn., *March 15, 1891.*

To the Editor of the New York Medical Journal:

Sir: Dr. Herrick's article on Railroad Surgery, in the *Journal* of March 7th, while possessing many merits, contains some propositions which it appears to me are at least open to debate; hence I venture to intrude upon your space and the doctor's article some thoughts from another standpoint anent railroad surgery. If I should carry my remarks beyond the scope of a criticism of the disputed propositions contained in his paper, it is only because the opportunity offers to note some thoughts which have often occurred to me before reading the doctor's article.

First, while I am ready to admit that injuries from railway accidents present some general peculiarities, and that surgeons of wide experience with this class of injuries may possess special skill in their management, yet when the doctor says, "We can not look upon an extremity injured by a train of cars having passed over it as in any way similar to a crush from other causes," I must demur. Are the principles of surgery so variable that a limb crushed by a car-wheel, one ground by the cogs of a mill or a thrashing machine, one pulpified by rolling logs, or one disorganized by a cyclone, and so on *ad infinitum*, must needs be treated upon the special principles of mill surgery, pinery surgery, or cyclone surgery? Verily, this is an age of specialism! True, I have never been an extensive railroad surgeon, though on the lists of several roads for a dozen years with a pass and small pay; and, meeting with about an equal experience with a couple of cyclones, accidents from mills, lumber camps, etc., I have never been able to see that it made much difference to the patient or the surgeon whether a certain amount of trauma and infection was inflicted by one violent means or another.

The proposition that "in determining where one should amputate, the speed of the train is to be considered first of all," is as remarkable as inscrutable. It does not appeal to everyday common sense, but rather to that fine ethereal sense with which some specialists appear endowed. Reasoning *a priori*, it is not clear why a car-wheel going sixty miles an hour should cause instant death to tissues some distance from the visible wound, while one traveling ten miles an hour has no such effects. I have most assuredly recognized this difference in different injuries, but have never been able to trace it to the rapidity of motion in the instrument of injury. Such sloughing of apparently uninjured tissue is commonly the combined result of a constitutional fault and a local traumatism which is not *apparent*. At any rate, such widespread destruction of tissue is especially frequent in crushing and fractures caused by the rolling of logs, and these rarely acquire any great momentum.

The following case will illustrate my meaning: C. J., a previously healthy lumberman, aged nineteen, was loading logs, when a skid broke and several logs rolled down from above his head upon the left side of his body from his shoulder to the foot. His forearm was broken at about the middle, also both bones of the leg just below the middle. There was nowhere a scratch upon the skin, and the fractures were looked upon as very ordinary affairs. When he reached the hospital, eight hours later, the leg was phenomenally swollen from the foot to the trunk and felt rather cold. The leg was dressed with side splints and sand-bags and a hot-water bag to the foot. On the next day the limb was warm, the swelling was not so tense, but immense areas of skin upon the leg and the popliteal region and along the posterior aspect of the thigh to the gluteal fold were purple and boggy. Sloughing was feared. On the third day the patient's temperature suddenly rose to 104° F., and pneumonia of the right lower lobe developed. During the next eight days the pneumonia ran a fairly regular course and resolution took place, but it did not seem from day to day that the patient could long hold out. In spite of all that could be done, the whole sides and posterior aspects of the leg, the popliteal region, and far up the posterior surface of the thigh, skin, connective tissue, and even muscles sloughed out right and left. Patient was now greatly exhausted, sleepless, without appetite, still coughing some, with an evening temperature of 103° to 104° and a morning temperature of 100°, and the leg was so filthy that I concluded it best not to wait longer, and amputated a little above the middle of the thigh, being obliged to still leave a strip of hard, dark, infiltrated tissue in the posterior aspect of the flap. This streak of bad tissue extended up to the gluteal fold, and to cut it out meant to amputate at the hip joint, without any assurance of reaching absolutely healthy tissue even then. Within a few hours the patient's condition greatly improved. Fever subsided, appetite returned, and he made a very good recovery. Contrary to expectation, the flap did not slough, but, after moderate suppuration, this part of the wound healed slowly by granulation.

The extensive sloughing in this case was due primarily to bruising by the falling logs, and secondarily to lowered general vitality incident to pneumonia. Such extensive death of the soft parts at a distance from the apparent injury is not uncommon in pinery accidents, in which the factor of velocity plays no part. I have known it to follow simple fracture from falling from a horse. Dr. Herrick might reply that in the cases referred to by him there was no swelling or other signs of injury, while in the above-mentioned case the limb was greatly swollen; but this is simply because railroad injuries receive prompt attention before these signs become manifest. The proposition that if the train which caused the injury was moving slowly amputation is permissible close to the line of wound, but if the train was at full speed only at some distance beyond the line of injury, appears, in my humble opinion, very far-fetched, to say the least.

I know of no great principles which underlie the proper treatment of railway injuries which differ from those of plain surgery, and can see no reason for cultivating this branch of practice into any special line; but I can recall some instances in which the profession has signally failed to reap unfading laurels from too assiduously specializing this department of the art and science. For example, when a very worthy and estimable brother was asked on the stand by the prosecuting attorney if he did not think it beneath the dignity of a decent and reputable medical man to play the detective and pump a badly injured man as to the details of the accident, that he might, as required, report the same to his company—though the surgeon was a man of feeling far above the usual railroad surgeon of the West, I could not but feel that his indignation was heightened by a suspicion that the accusation was perhaps too true. Railway companies, however much abused they may be, should not be allowed to specialize our profession so far as to cause us to forget those grand old principles of surgery and humanity which are above the quarrels of corporations and laborers. Not to multiply examples, and to make a long story short, it appears to me that the specialty of railroad surgery has added but faint luster to the lamp of surgical science, and no very great emoluments and dignity to the profession. If I were to speak of those achievements of which I am proudest or of those which have given me the most unfeigned delight, I should leave most of my connection with that specialty unmentioned, particularly the medico-legal and expert part.

In the West, railroad positions have been coveted by members of the profession chiefly as a means of advertising to the uninitiated that they were surgeons, since in general the emoluments have not been great. I fancy the companies have very largely regarded them as means to achieve ends, since their appointments are quite generally given to those who have influence or are friends of the officers. I do not remember of any railway in Minnesota which has spontaneously or systematically cast about for the most scientific surgeon that it could secure. Good surgeons have been appointed, it is true, but always the appointment has been by accident or for cause, and I defy any corporation to show that it has ever done otherwise. Would it not be a good, a sensible, and a humane thing, and even a paying thing, for railroad companies to treat their injured men like other human beings—when they are injured, simply give them the advantage of the best talents and surroundings which the circumstances admit of? In cities they should be sent to the best hospitals and be attended by the staff, or the best general surgeons. In the country, the injured should be governed just as a private individual would be—given the best under the existing circumstances. Let the companies employ men to do their own watching, their own managing, but leave the surgical work to good general surgeons. Their surgeon then need not be a special attorney. His dignity would be quite as well preserved, and his word would go quite as far with the jury.

James H. Dunn, M. D.

ENLARGEMENT OF THE SPLEEN IN THE MALARIAL DISEASES OF CHILDREN.

15 East Fifty-fourth Street, *April 27, 1891.*

To the Editor of the New York Medical Journal:

Sir: In the report of the discussion of Dr. James's paper upon Malaria, in the last issue of the *Journal*, on page 492, I am credited with the astonishing statement that "so far as children were concerned, the spleen was never enlarged so as to be of any diagnostic value." The point made in the discussion was that *enlargement of the spleen was of no diagnostic importance unless it was sufficient to be made out by careful palpation;* that percussion of the spleen was of itself of very doubtful value.

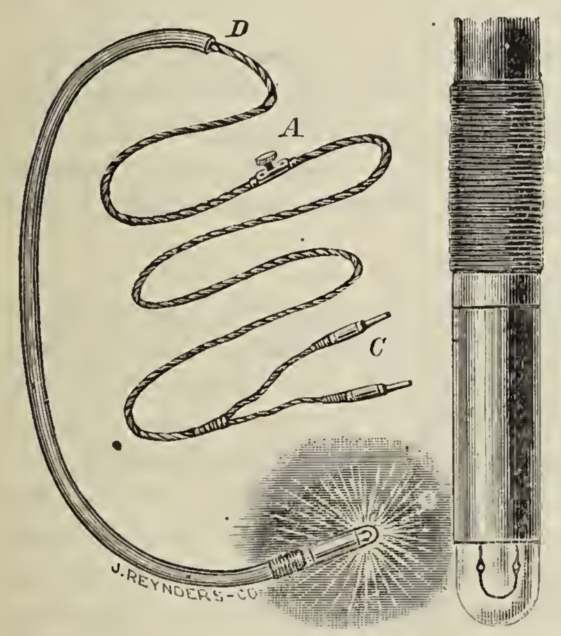
L. Emmett Holt, M. D.

THE "GASTRODIAPHAN."

120 East Sixty-fourth Street, New York, *April 23, 1891.*

To the Editor of the New York Medical Journal:

Sir: In the *New York Medical Journal* of April 4, 1891, Dr. Hugo J. Loebinger describes under the name of "pelveoscope" an instrument which is introduced into the rectum for the purpose of transluminating. In his article Loebinger says: "In conclusion, I would append several historical facts which I naturally gathered, after having finished the construction of my 'pelveoscope,' *in anticipation of the query whether this instrument enjoyed the distinction of novelty. This question may safely be answered affirmatively,* with perhaps the single modification that the principle of illumination is by no means of modern date." I take the liberty of calling your attention to my article Die Gastrodiaphanie (*Medicinische Monatsschrift*, November, 1889), forming a paper I read at that time before the German Medical Society of New York, with demonstrations. As can be seen in the article mentioned, I was the first who transluminated the stomach in *man*. The instrument serving for this purpose I have called the "gastrodiaphan," meaning stomach transluminator (see figure). There is no instance whatever where "Loebinger's pelveoscope" could be used differently from the "gastrodiaphan."



In my article I already said: "*The same apparatus serving for the translumination of the stomach could be used likewise for the translumination of the large intestine;* here also the organ will have to be filled first with air or water."

In German it was: "*Der zur Durchleuchtung des Magens dienende Apparat könnte auch für die Untersuchung des Colon angewandt werden.* Auch hier wird man eine Füllung des Organs mit Luft oder Wasser zuvor vornehmen."

I am very sorry to say that Dr. Loebinger was fully aware of my article, as I personally, about a year ago, had a conversation with him about the "gastrodiaphan."

Max Einhorn, M. D.

Book Notices.

A Text-book of Bacteriology. By Carl Fraenkel, M. D., Professor of Hygiene, University of Königsberg. Third Edition, translated and edited by J. H. Linsley, M. D., Professor of Pathology and Bacteriology, Medical Department of the University of Vermont, etc. New York: William Wood & Co., 1891. Pp. 380. [Price, $3.75.]

This attractive work, which has already been translated into six languages, is a very practical guide to the study of micro-organisms. Although it does not purport to be a complete and exhaustive discussion of the subject, and presents no statements from literature, and only such facts and observations as have been examined by the author, yet a perusal of the book convinces the reader that it is the work of a master.

The first chapter treats of the natural history of bacteria in general, of their morphology, sporulation, excreta, etc.; the second, of methods of investigation, the microscope, staining of bacteria, and preparation of cover-glass specimens, together with brief statements of the relative value of different stains. The third chapter expounds the methods of cultivating microbes; the fourth, the methods of transmission from one environment to another; and thus the great questions of contagion and infection and of natural and acquired immunity are here dwelt upon. The fifth chapter is concerning non-pathogenic bateria.

The sixth chapter, the most important to the pathologist and to the general practitioner, and one which alone occupies five twelfths of the work, treats of pathogenic bacteria. Thirty varieties are described, and the mode of transmission of the principal among them is clearly elucidated. It is an excellent and comprehensive exposition of our recent knowledge in this direction.

The remaining chapter and the appendix treat respectively of the investigation of air, soil, and water, and of mold and yeast fungi. While we regret the total absence of engravings and plates in the American edition, we recognize the concise and practical character of the text, happily rendered by the translator, making the work of decided value to the practitioner as well as to the professional bacteriologist.

Les bactéries et leur rôle dans l'étiologie, l'anatomie et l'histologie pathologiques des maladies infectieuses. Par A. V. Cornil, Professeur d'anatomie pathologique à la Faculté de médecine de Paris, et V. Babes, Professeur à la Faculté de médecine, etc. Troisième édition, refondue et augmentée, contenant les méthodes spéciales de la bactériologie. 385 figures en noir et en plusieurs couleurs intercalées dans le texte et 12 planches hors texte. Tome Premier. Pp. vii-582. Tome Second. Pp. 608. Paris: Félix Alcan, 1890. [Prix, 40*fr.*]

The physician, not content with studying diseases exclusively in their symptomatology, seeks now their explanation in the intimate relations of the animal and vegetable parasites and messmates, and in the chemical reaction caused by their physiological and degenerative processes. Much progress has been made in this direction since the first edition of Cornil and Babes's magistral work appeared. The toxalbumines have been discovered, and the synchronous or associated existence of several microbes has been studied by Babes. The authors have in general carefully collated all the works throwing light upon their vast subject, in many instances reconstructing many of their previously written chapters and intercalating new ones on fresh themes. Numerous photographs of microbes and cultures aid materially in the realization of the subject-matter, which is throughout treated in a clear, concise, and satisfactory manner.

The Physical Diagnosis of the Diseases of the Heart and Lungs, and Thoracic Aneurysm. By D. M. Cammann, B. A. Oxon., M. D., Attending Physician in the Class of Heart and Lungs, Demilt Dispensary, etc. New York: G. P. Putnam's Sons, 1891. Pp. xii–188.

Any one now producing a work on physical diagnosis should be sure that he has something new and valuable to say. The subject has been gone over again and again by such excellent men, and so many good and inexpensive text-books on it have been produced, that the only excuse for the production of additional books is that the writer has some new and important observations to record. It can hardly be said in regard to the volume before us that this is the case. It is well arranged. It contains tables of the valuable observations of the author's father, the late Dr. G. P. Cammann, and this fact gives it a certain value. It also contains descriptions and illustrations of some forms of stethoscopes which possess greater or lesser advantages for certain purposes. We must note some serious omissions, as, for example, on page 48, in the description of cavernous respiration, we find no mention of the fact that it is heard not only over pulmonary cavities, but also sometimes over compressed or consolidated lung, and that in some cases of pneumothorax this quality of breathing is very frequently *absent* in cases where there are large or small cavities.

The book is illustrated by some of Sibson and Quain's well-known figures. The chapter on the heart is fairly good; but there is no description of the pulse which gives a proper idea of its extreme importance in the diagnosis of cardiac disease. An elaborate table is given of measurements of the heart made by auscultatory percussion, which is of considerable interest. On the whole, it is impossible to say more of the book than that it is accurate in most particulars so far as it goes.

Leçons cliniques sur les maladies de l'appareil locomoteur (os, articulations, muscles). Par le Dr. Kirmisson, Professeur agrégé de la Faculté de médecine; chirurgien de l'Hôpital des enfants assistés, etc. Avec 40 figures dans le texte. Paris: G. Masson, 1890. Pp. viii–350. [Prix, 10*fr.*]

This is a series of observations bearing upon such diverse subjects as osteomyelitis, bone lesions in hereditary syphilis, chronic arthritis, whether of specific, traumatic, or rheumatic origin, osteoperiostitis, luxations, fractures, etc. Although the author distinctly states his intention of confining himself exclusively to diseases of the locomotive organs, he has not been able to resist communicating to us several histories of affections of other parts, such as one of a calcareous fibroma and another of a hydatid cyst of the abdominal wall, not to mention an interesting chapter on torticollis. Cervical and abdominal modes of progression are, to say the least, not frequent with us, although with different nations may be found different habits.

The author's style is characteristically simple and painstaking, and his material, gathered at the numerous hospitals of Paris at which he has officiated during a series of years, is treated with the skill of an accomplished anatomist, and is valuable not only in itself, but also as affording good subjects for diagnosis and for the consideration of the relative value of various methods of treatment.

We believe the reader will find matter of much interest in the chapters on synovitis, genu valgum, and flat-foot, of which the causative as well as operative indications are learnedly discussed.

Du chimisme stomacal (digestion normale—dyspepsie). Par Georges Hayem, professeur de thérapeutique à la Faculté de médecine de Paris, etc., et J. Winter, préparateur du laboratoire de thérapeutique à la Faculté de médecine de Paris. Paris: G. Masson, 1891. Pp. 274. [Prix, 4*fr.*]

The author reviews the physiological features of gastric acidity, of the secretion of pepsin, of the formation of peptones, and of the secretion of the gastric juice. The various methods of analyzing the gastric juice are presented, and the normal evolution of gastric digestion and the variations in the chlorine compounds as well as the total acidity are carefully considered. These processes constitute the normal chemistry of the stomach and prepare us for the study of the pathological chemistry of that organ. From the chemical standpoint the authors believe that the pathological gastric states may be divided into dyspepsia with superacidity and with subadicity, that are the hyperhydrochloric and anydrochloric states of Sée. These states may be termed hyperpepsia and hypopepsia. The former is subdivided into qualitative, quantitative, and attenuated; while hypopepsia is divided into a first, a second, and a third degree, the latter being apepsia. These divisions are dependent upon an increase or diminution of the free or combined hydrochloric acid, as shown by the increase or diminution of the total chlorides. Each of these divisions is subdivided into states with or without acid fermentation, and all are carefully considered from the clinical standpoint.

The volume contains a mass of painstaking scientific research, and we know of no work in which the general subject of dyspepsia receives a more exhaustive consideration. In a country in which dyspepsia is as prevalent as America such a book as this should receive a welcome commensurate with its scientific importance.

Manual of the Domestic Hygiene of the Child, for the Use of Students, Physicians, Sanitary Officials, Teachers, and Mothers. By Julius Uffelmann, M. D., Professor of Internal Medicine at the University of Rostock. Translated, with the Author's kind permission, by Harriot Ransom Milinowski. Edited by Mary Putnam Jacobi, M. D. New York and London: G. P. Putnam's Sons, 1891. Pp. x–229.

This is a most excellent work. The purpose of the editor to preserve the treatise for the professional reader, for whom it was originally designed, and at the same time to place it within reach of the intelligent mother, has been admirably carried out. Unlike many books designed for popular instruction upon medical and scientific matters, it may be placed in the hands of mothers with entire confidence. It will require, however, for its understanding a considerable degree of intelligence and education.

A Practical Treatise on Fractures and Dislocations. By Frank Hastings Hamilton, A. B., A. M., M. D., LL. D., late Professor of Surgery in Bellevue Hospital Medical College, etc. Eighth Edition, revised and edited by Stephen Smith, A. M., M. D., Professor of Clinical Surgery in the University of the City of New York, etc. Illustrated with Five Hundred and Seven Woodcuts. Philadelphia: Lea Brothers & Co., 1891. Pp. xvi–35 to 849. [Price, $5.50.]

A work that was originally so carefully and thoroughly done as this is not an easy one to edit, and a nice discrimination has been shown by the accomplished editor in the matter that he has omitted, as well as in that added. In order to render the text more compact, the clinical histories are printed in smaller type than is used for the body of the work, and to supplement the text a hundred and five new illustrations have been added. The editor is very conservative, presenting new methods of treatment that have been recommended, as in the case of fractures of the vertebræ, but refraining from aught else than a statement of what reporters have said. In the chapter on fractures of the patella the latest views are given regarding the vexed question of operative interference in recent uncomplicated cases.

The utility of the work has been increased by the additions that have been made, and they insure a continuation of the favor with which it has been regarded.

Aphorisms in Applied Anatomy (or Anatomy for the Final Examinations) and Operative Surgery, including One Hundred Typical *viva voce* Questions in Surface Marking, etc. Being Notes of Demonstrations to his Surgery Class. By Thomas Cooke, B. A., B. Sc., M. D. (Paris), F. R. C. S. (Eng.). London and New York: Longmans, Green, & Co., 1891. Pp. x–13 to 173. [Price, $1.25.]

The author states that this little volume is a syllabus of the work done in his courses on operative surgery, and that he has only intended to mention those leading points the knowledge of which is most important to the student.

In regard to operations, reference is made to those only that are "most advantageous" for the average student to perform, and a sufficiently extensive field is covered to enable those that follow the author's course to meet most emergencies that may arise in the average professional career.

The literary style abundantly indicates that the volume was written for the use of students preparing for an examination, and it may prove serviceable to those that have gone through a practical course and need such a work to refresh their memory, though to any one else it would probably be a delusive aid.

BOOKS AND PAMPHLETS RECEIVED.

A Text-book of Chemical Physiology and Pathology. By W. D. Halliburton, M. D., B. Sc., M. R. C. P., Professor of Physiology at King's College, London, etc. With 104 Illustrations. London and New York: Longmans, Green, & Co., 1891. Pp. xx–874. [Price, $9.75.]

Surgical Bacteriology. By N. Senn, M. D., Ph. D., Professor of Surgery in Rush Medical College, Chicago, etc. Second Edition, thoroughly revised. Philadelphia: Lea Brothers & Co., 1891. Pp. viii–17 to 271. [Price, $2.]

Origin, Purpose, and Destiny of Man, or Philosophy of the Three Ethers. By William Thornton. Boston: Published by the Author, 1891. Pp. 100.

Practical Points in the Management of some of the Diseases of Children. By I. N. Love, M. D., Professor of Diseases of Children, Clinical Medicine, and Hygiene, Marion Sims College of Medicine, St. Louis, etc. Detroit: George S. Davis, 1891. Pp. xviii–141. [Physician's Leisure Library; price, 25c.]

Practical Notes on Urinary Analysis. By William B. Canfield, M. D., Lecturer on Clinical Medicine, University of Maryland, etc. Detroit: George S. Davis, 1891. Pp. vi–93. [Physician's Leisure Library; price, 25c.]

Transactions of the New York State Medical Association, for the Year 1890. Volume VII. Edited for the Association by E. D. Ferguson, M. D., of Rensselaer County. Pp. vii–634.

Acoustics applied to the Human Chest in Physical Diagnosis. By J. R. Leaming, M. D. [Reprinted from the *New York Medical Journal* and the *Transactions of the New York State Medical Society.*]

Interpleural Pathological Products: their Cause, Significance, and Specific Relationship to Pulmonary Phthisis. By J. R. Leaming, M. D. [Reprinted from the *Transactions of the American Climatological Association.*]

Peripheral Neuritis of Syphilitic Origin. By J. A. Fordyce, M. D. [Reprinted from the *Journal of Cutaneous and Genito-urinary Diseases.*]

Microscopic Examination in Dr. Bronson's Case of Acne Varioliformis of the Extremities. By J. A. Fordyce, M. D. [Reprinted from the *Journal of Cutaneous and Genito-urinary Diseases.*]

Multiple Pigmented Sarcoma of the Skin (Kaposi). By J. A. Fordyce, M. D. [Reprinted from the *Journal of Cutaneous and Genito-urinary Diseases.*]

Some Comparative Osteological Notes on the North American Kites. By R. W. Shufeldt, C. M. Z. S. [Reprinted from the *Iris.*]

Typical Uterus Bicornis, etc. By George Wiley Broome, M. D. [Reprinted from the *Weekly Medical Review.*]

Contribution à l'étude des manifestations de la syphilis sur les tonsilles pharyngée et préépiglottique. Par les docteurs E. J. Moure et V. Raulin. [Tirage à part de la *Revue de laryngologie*, etc.]

A Case of Acromegaly. By Charles Long, M. D. [Reprinted from the *Lehigh Valley Medical Magazine.*]

Seventeenth Annual Report of the Secretary of the State Board of Health of the State of Michigan, for the Fiscal Year ending June 30, 1889.

Proceedings and Addresses at a Sanitary Convention held at Alpena, Michigan, July 10 and 11, 1890. [Supplement to the Report of the Michigan State Board of Health for the Year 1891.]

Announcement of the Thirty-third Annual Session of the Long Island College Hospital, Brooklyn, N. Y.

Postal Savings Banks. An Argument in their Favor. By the Postmaster-General. Washington: Government Printing Office, 1891.

Reports on the Progress of Medicine.

NEUROLOGY.

Astasia and Abasia.—The *Archives de neurologie*, March, 1891, contain Dr. Thyssen's interesting observations upon astasia and abasia. The essential feature is inability to stand and walk normally, though the patient can walk on all fours, climb a tree, hop, jump, and swim, or take great strides, like an actor in burlesque tragedy. The muscles are moved normally when the patient sits or lies down. Hysterical stigmata exist in many instances, notably in Blocq's cases, yet it is not impossible that astasia and abasia may accompany some organic spinal-cord disease. Blocq distinguishes three forms of this disorder. In 1889 Charcot gave the following division:

$$\text{Abasia}\begin{cases}\text{paralytic,}\\ \text{ataxic,}\ \begin{cases}\text{tremulous,}\\ \text{choreic.}\end{cases}\end{cases}$$

But this classification will not cover all cases, so the author of the paper cited elaborates it sufficiently to include those of Ladame and Brissaud, thus:

$$\text{Astasia and abasia}\begin{cases}\text{paraplegic,}\\ \text{ataxic,}\ \begin{cases}\text{tremulous,}\\ \text{choreic,}\\ \text{saltatory.}\end{cases}\end{cases}$$

There may be other forms yet unnoted. The condition might be confounded with the inco-ordination of locomotor ataxia and Friedreich's disease but for the fact that in these inco-ordination is present during all movements and not alone in standing and walking. Hysteric ataxia as described by Briquet and Lassègue exists only when the eyes are closed. Hysterical paraplegia with absence of power is the same whether the patient stands, sits, or lies down. In rhythmic chorea there are cadence and regularity in the muscular movements. Bamberger's saltatory reflex convulsion expresses itself by spasmodic paralysis and the exaggerated reflexes of epileptic tremor. To explain the curious phenomenon of astasia-abasia, Charcot and Blocq offer an ingenious psychological theory that is opposed by Binswanger and severely criticised by Möbius. This theory is based upon our knowledge of acquired movements. The greater part of all centers for function are found in the brain and spinal cord, especially centers for associated movements, such as standing, walking, swimming, and playing upon various instruments. A spinal center might possess the material for action, so to speak, and be directed by a cortical center, " by psychological memory," which would indicate the kind of impulse necessary to determine the special function. Blocq admits differentiated cellular groups in the cortex for standing and walking, which are acts that require a long apprenticeship. These groups are doubtless connected with special commissures that bring them into close relation with corresponding groups of cells in the spinal cord. Experiment confirms this hypothesis, notably in the automatic movements of decapitated animals, such as walking, swimming, or flapping the wings. B. Salemi Pace thinks that the influence of the cord preponderates, basing this assumption upon observations of special and partial functional modifications of the spinal marrow, resulting in loss of motor memory, both dynamic and static. Psychologic memory, then, may be said to reside in the cortex, and organic memory in the spinal cord. Each case of astasia and abasia must be studied on its own merits, to determine whether the impulse centers or the execution centers are at fault, whether the cause of interrupted function lies in the brain or in the cord. Fear can paralyze. Now, fear is one of the exciting causes of astasia-abasia, this condition being an emotional paralysis due to self-suggestion that arises in loss of muscular power. Though the changes brought about are purely dynamic, they occupy the same locality and induce the same clinical symptoms that would appear in a case of organic lesion. The presence of hysteria, hypochondriasis, neurasthenia, or other disorder, is in itself insufficient to account for astasia-abasia, which thus far can only be regarded as a psychopathic affection and in no sense as a symptom that is pathognomonic of a new or already known disease.

Comparison of Ocular Troubles in Locomotor Ataxia, Multiple Sclerosis, and Hysteria.—The *Boston Medical and Surgical Journal*, March 19, 1891, has an editorial upon this subject, based upon Charcot's recent lecture at the Salpêtrière. Amblyopia with nacreous degeneration of the fundus is often the first symptom of locomotor ataxia, frequently antedating motor inco-ordination and diminished reflexes by many years. Nystagmus, non-hereditary, at once suggests multiple sclerosis. Strabismus or paralysis due to spasm is seen in hysteria; nystagmus is never present, though there may be uniocular diplopia. In hysteria, diplopia is usually binocular and due to paralysis of the third pair of nerves or the abducens. Locomotor ataxia gives the Argyl-Robertson phenomenon, a contracted pupil, especially in blue eyes, and sometimes pupillary inequality. There are also lesions of the fundus of doubtful prognosis. There is marked impairment of vision, and blindness is only a question of time. In sclerosis, lesions of the fundus are likewise present. But the outlook is favorable. Sight improves after a time, and only rarely is it lost. In hysteria, contraction of the visual and color fields and achromatopsia exist. Achromatopsia is present in tabes. In multiple sclerosis there is no alteration in the visual field or in the perception of colors.

Paramyoclonus Multiplex.—The thirty-second case of this affection now on record is described in brief in the *Gazette hebdomadaire de médecine et de chirurgie* for April 4, 1891. The patient, eleven years old, began to experience, after an accident three years earlier, contractions in all the muscles similar to those produced by electricity, those of the face not excepted. An effort of will could lessen their frequency and intensity. Tickling or percussion would induce these contractions. They disappeared entirely during sound sleep. Dr. Liebault employed hypnotic suggestion faithfully for a month with negative results.

The Colony of the Insane at Gheel.—In the *Journal of Mental Science* for April, 1891, Dr. Margaret A. Cleaves has an account of this interesting settlement, which is a commune of nine villages having a population of 11,000 sane and 1,760 insane persons. The latter are placed in families of the commune, according to the patient's social position and occupation. There are five physicians for the colony, two superintendents, each with an assistant, and the resident physician at the infirmary. A royal commission of seven members report after inspection once a quarter to the Lord Chief Justice. There is also a permanent committee of five, who assist in the distribution of patients and exercise a general supervision over them. Six attendants visit the patients in their respective cottages daily, and keep records of the patient's name, age, cottage, amount and date of payments for care, clothes furnished, and any other facts of interest. The assistant physicians must visit every chronic patient once a month, and every recent or curable patient once a week. The superintendents must visit each one of the patients (1,760) once in six months. Suicidal or homicidal persons are not taken. No family is allowed to receive more than two patients, and many are allowed but one. If by experience it is found that any given family is unfitted to have the care of the insane, its members are not permitted to continue as nurses. The cottagers either own or rent their places, and all have a small garden at least. There are but few successful escapes. Every one in the commune exercises more or less watchfulness, and the police are near by. Sunday is the favorite day for attempts to get away, for patients are then unemployed. They go about with the greatest freedom at all times, yet none are allowed to be absent over six hours without search being instituted. The general immunity from accident speaks well for the liberty given.

There is paid for pauper patients respectively, as follows:

First class, quiet and clean, 84 centimes a day; 60 centimes, or 12 cents, goes to the cottager, and the remainder into the administrative fund for clothing, etc.

Second class, dirty at times, 94 centimes a day, the cottager receiving about 15 cents of this and the administrative fund the rest.

Third class, dirty and troublesome, 1·10 franc a day; of this, about 19 cents go to the cottager and the remainder to the fund.

Private patients pay according to their means, a Polish nobleman paying 3,600 francs a year. From 1879 to 1883 there were no accidents at Gheel. In the year following 1883 there were two men drowned and a number of cases of pregnancy among patients. In one small, primitive house a feeble old man, insane for many years, who assisted the housewife, may be taken as an example of Gheel's good work. Much more comfortable in this rustic habitation—engaged in lending a hand in little domestic duties that give one a sense of home—than in the wards of a crowded asylum, where he would have been too feeble to get about or engage in work and could only sit idle and vacant till death came to his release, this not unhappy person remained a citizen in part and of some use in the world. More than this, his place in the asylum was left to be filled by a person of greater necessity, and the expense of his maintenance diminished to the least possible amount. The influence of the insane upon the sane is practically *nil*. And the influence of over a thousand insane persons upon each other in a community of eleven thousand sane persons is also practically harmless, owing to their great dilution, so to speak, in the sane life about them. The saner and more healthful the influences surrounding the insane, the better chance they have of maintaining the highest degree of mental equilibrium which is consistent with their actual brain lesion.

Trophic Disturbances following Oxide-of-Carbon Asphyxia.—Dr. Rendu reports in the *Union médicale* for April 4, 1891, a case of oxide-of-carbon poisoning, with resuscitation by injections of ether, artificial respiration, and inhalations of oxygen, in which within twenty-four hours painful blisters appeared upon the feet resembling burns without inflammation or œdema of the surrounding parts. There were no alterations of sensation or of motility. The case presented some points of similarity to neurotic pemphigus and to zoster. The author inclined to the belief that his patient was suffering from an ascending neuritis, and that the prognosis was favorable, as the trophic disturbances preceded all paralysis and constituted an early symptom, instead of appearing as a secondary manifestation incident to grave errors in nutrition.

Spinal-cord Surgery for Compression.—According to the *Semaine médicale* for April 1, 1891, Dr. Bazy now reports for the first time an operation performed by him on November 9, 1886, for the removal of a hydatid cyst involving the cauda equina. This antedates Horsley's first operation on the spinal cord by seven months. Bazy states it was not made public earlier for the reason that its chief interest naturally resided in the therapeutic results. In this instance there were none, the patient dying from a cause in no way connected with the operation upon the cord. Bazy reports an exploratory incision of the cord to clear up a diagnosis of hysteria or tumor. The patient recovered from the operation, which did not in any way ameliorate or aggravate the disease. The surgeon quoted does not advocate any special instruments for spinal-cord surgery. He advises closing up the dura mater without drainage to prevent the escape of rhachidian fluid.

Spasmodic Wryneck cured by Excision of Nerves.—The *British Medical Journal* for April 4, 1891, gives Dr. Noble Smith's account of an operation similar to Campbell de Morgan's, published in 1886. Spasmodic wryneck following a strain had been present for sixteen years. A plaster-felt jacket gave negative results just before the operation. The head was toward the right, and in the cervical region there was a severe spinal curvature to the left. Constant and violent spasmodic action existed in the left sterno-mastoid and upper part of the left trapezius muscles, drawing the face toward the right shoulder, together with spasmodic action of the splenius capitis and other muscles on the right side of the neck. For four months fixation and medicinal remedies were faithfully tried. Support was decidedly beneficial, but only partially controlled spasmodic action. Stretching the spinal accessory nerve was then decided upon, which caused only temporary improvement. Then a third of an inch of the spinal accessory was excised, the wound healing perfectly. The result was complete paralysis of the sterno-mastoid and trapezius and lessening of the spasm. The patient could turn the head easily to the left and hold it in that position. Spasm on the right side continued, the splenius capitis being the greatest offender. No further improvement taking place, portions of the great occipital nerve and of its external division and of its third and fourth posterior branches were also excised, this last operation practically and permanently putting an end to all spasmodic action. Loss of power from muscular paralysis was very slight, the patient experiencing no discomfort or disability from it.

Word-blindness and Agraphia.—*Médecine moderne* for March 26, 1891, contains Dr. J. Dejerine's report of a case of word-blindness, with autopsy. There was complete agraphia and presumably there was hemianopsia, but no optic aphasia or psychic blindness. Transient paraphasia existed. The patient, a man sixty-five years old, ten years earlier had a light attack of hemiplegia, of which all traces had practically disappeared. There were no disturbances of speech. One morning he suddenly discovered his utter inability to read the newspaper. Henceforth the only written or printed word he could comprehend was his own name. When asked to write something spontaneously or under dictation, he would write his name each time, but most imperfectly. In the course of eleven months the patient learned to recognize C and G, and could understand and pronounce numbers expressed in figures not exceeding two. The autopsy revealed in the left hemisphere a yellow wedge-shaped patch of softening that penetrated as far as the lateral ventricle, destroying the greater part of the optic fibers in its vicinity. In the right hemisphere were also found areas of softening implicating the optic tract. There were no granular bodies in Broca's convolution.

The Pathogenesis of Muscular Atrophy in Brain Disorders.—*Mercredi médical* for March 18, 1891, cites Dr. Mouratoff's conclusions upon this subject, presented to the fourth congress of Russian physicians. In cerebro-cranial affections muscular atrophy may develop without accompanying lesions in the cerebro-spinal ganglia. Descending degeneration in the pyramidal tract is not an essential feature in the development of muscular atrophy. In the majority of cases atrophy is consecutive to lesions in the motor areas of the cortex. From the point of view of pathological anatomy these are cases of simple atrophy, explainable more readily by the theory of vaso-motor disturbance than by the supposition that lesions, whether anatomical or dynamic, exist in the anterior horns.

Alcoholic Paralysis.—At the same meeting (*ibid.*) five new cases were reported by Dr. Kojevnikoff in which there existed psychic phenomena and loss of memory. Paralysis was more marked in the lower than in the upper extremities and existed in greater degree in the extensors than in the flexors. While there are anatomical changes in the central nervous system in alcoholic paralysis, the lesions in peripheral nerves are of greatest moment, consisting of multiple parenchymatous neuritis. In the cord there are parenchymatous lesions at times, and in other cases interstitial or sclerotic processes. In the brain the cortex is oftener affected than the white matter. All the lesions present are quite independent of each other and have nothing in common save their original cause—namely, alcohol. Multiple neuritis is the anatomical substratum of the clinical manifestation known as alcoholic paralysis. Dr. Sikorski asked if cold and other depressing influences played no part in these peripheral and central lesions? Alcoholism Dr. Kojevnikoff considered the chief factor always, as among the rich alcoholic paralysis was as frequent as among the poor and badly protected.

Progressive Muscular Atrophy.—These are Dr. Rot's conclusions expressed at the same meeting (*ibid.*): The existence of progressive muscular atrophy independent of nerve lesion must be accepted as a fact. The lesion in the muscles consists in a transverse and longitudinal atrophy of the muscular fibers. Hypertrophy of the fibers is a phenomenon of compensation not connected with the pathological process. As heredity is the only ætiological factor that is well demonstrated, the real cause of the affection must be sought for in the portion of the fecundated ovum that gives rise to the muscular system.

Physiology and Pathology of the Anal Reflex.—According to Dr. Rossolimo (same meeting—*ibid.*), there is contraction of the sphincter ani when the circumanal skin or mucous membrane is touched, and this reflex is diminished or abolished in tabes, multiple neuritis, sciatica, and myelitis in the lower part of the cord. Exaggeration of this reflex is present in myelitis of the upper portion of the cord in persons of neuropathic tendency in whom cutaneous reflexes are increased.

Congenital Myotonia.—The *Union médicale* for April 7, 1891, contains an interesting paper by Dr. B. Martin on Thomsen's disease, an abstract of Dr. Déléage's recent thesis upon this somewhat rare disorder. The chief characteristics of congenital myotonia are these: Spasmodic stiffness of muscles following voluntary movement, due to an increase of muscular tissue and a diminution of muscular force, together with special alterations in mechanical and electrical excitability of these same muscles. Usually there are psychic disturbances as well. Heredity is an important factor. The disease appears in early childhood as a general thing, sometimes lying dormant till roused by excessive fatigue or exhausting emotion. Boys are oftener affected than girls. Sensation is normal, the knee-jerk is seldom altered, fibrillary twitchings are sometimes present, and the sphincters and all unstriped muscular fibers are unaffected. The most constant mental symptom is the strong desire to conceal the disease, the patient often submitting to serious and painful inconvenience rather than reveal it. There may be great depression of spirits, taciturnity, attacks of delirium, intense willfulness, or even subnormal intellect. In the diseased muscle there is increase in the volume of muscular fibers, increase in the number of nuclei, and hypertrophy of non-differentiated protoplasm, this latter condition bringing about a degeneration and atrophy of the contractile substance. The vessels are normal. Congenital myotonia is a disease of muscle, due to the persistence of or a reversion to the embryonic type of muscular tissue, and constitutes a parenchymatous myopathy somewhat akin to pseudo-hypertrophic paralysis. In familiar myopathies there is hyperplasia of interstitial connective tissue. In Thomsen's disease there is hyperplasia of protoplasm. The morbid conditions with which this state may be confounded are pseudo-hypertrophic paralysis, tetanus, hysteria, neurasthenia, muscular hypertrophy, spasmodic spinal paralysis or pseudo-locomotor ataxia, Eulenburg's congenital paramyotonia, and claudication or intermittent paralysis of vascular origin. The disease, which is slowly progressive and incurable, may be associated with locomotor ataxia, reflex epilepsy, etc., and then its recognition becomes a matter of much difficulty. In certain cases electricity, massage, and rational gymnastics hold the destructive process somewhat in abeyance.

Spinal-cord Lesions in the Scoliosis of Childhood.—Dr. Klippel reports in the *Gazette hebdomadaire de médecine et de chirurgie* for March 28, 1891, three such cases, in two of which there was asymmetrical deformity of the anterior horns on the same side as the scoliosis, this deformity bearing a certain definite relation to the peripheral lesions present—viz., bony and muscular atrophy. The question naturally arises as to whether the cord lesion is a cause or an effect, whether the uniform arrest of development it presents is due to scoliosis and therefore is of traceable peripheral origin, or whether scoliosis is brought about by some primary cord lesion, such as anterior poliomyelitis, syringomyelia, Morvan's disease, hereditary ataxia, locomotor ataxia, and sometimes myelopathic muscular atrophy. Some of the foregoing possible causes of scoliosis do not belong to the period of childhood and would naturally be excluded. The author prefers the term myelopathic, as applied to scoliosis due to primary cord lesion, to the usual term paralytic, for the muscular insufficiency explains the thoracic deformity without a nerve lesion being necessarily present.

The Nature and Treatment of Angina Pectoris.—The *Practitioner* for April, 1891, contains Dr. R. Douglas Powell's able paper on this subject. The author believes that angina pectoris rests upon a neuro-pathological foundation, in which the characteristic symptoms range between the wide limits of remedial functional disorder and fatal organic lesion of the cardio-vascular system. Arterial tension is an essential element in the majority of cases. The influence of habitually increased arterial tension in producing at first functional disturbance and ultimate organic lesions of the heart and vessels is great, and the results are widespread and disastrous. The mechanism of vaso-motor angina is paroxysmally increased blood-pressure from spasm of the systemic vessels. There may be intense suffering and a fatal result without any heart lesion discoverable before or after death. Of all tonics for this condition, arsenic is the best. Digitalis combined with nitroglycerin and nervine tonics or sedatives are of great value. Nitrite of amyl and nitroglycerin are specially useful in grave cases where there is definite cardiac lesion. Angina pectoris, which is a disturbed innervation of the heart or vessels, may be arranged for convenience into four groups or manifestations:

1. Disturbed innervation of the systemic or pulmonary vessels, causing their spasmodic contraction and, consequently, a sudden excessive demand upon the propelling power of the heart, violent palpitation or more or less cramp and paralysis ensuing, according to the reserve power and integrity of the organ—*angina pectoris vasomotoria.*
2. Essentially the same mechanism, but with the excessive demand made upon a diseased heart—*angina pectoris gravior.*
3. The trouble may commence at the heart from irritation or excitation of the cardiac nerves, or from sudden accession of anæmia of cardiac muscle from coronary disease—*primary cardiac angina.*
4. In certain conditions of the blood, or under certain reflex excitations of the inhibitory nerves, always, however, with a degenerate, feeble heart in the background, we may observe intermittence in its action prolonged to syncope—*syncopal angina.* This group would include the vagus angina pectoris of Ross.

Acromegalia.—*La France médicale* for March 27, 1891, cites the presentation of a case of acromegalia by Dr. Pinet-Maisouneuve. The patient, a man of thirty-seven, noticed thirteen years earlier, toward the close of the period of growth, increase in the size of the head, hands, and feet. Two years after the beginning of this change there were headaches that lasted for six months. At present the face is pale, waxy, and greatly deformed, the hands are massive and almost square, the fingers being of the same size all the way down and resembling sausages, the tongue is hypertrophied, the lips are enormous, the nose is greatly enlarged, and the chin is protruding. The spine is curved. There is enlargement of the heels, feet, toes, knees, clavicles, and scapulæ. There is no history of syphilis or intemperance. The urine is normal. The senses of touch, taste, hearing, and smell are preserved intact. Vision is impaired, there is exophthalmia, with a normal visual field. The ophthalmoscope reveals narrowing of the retinal arteries and dilatation of the retinal veins. There is no decrease in stature. The patellar reflex is lost, and there is general weakness.

Physical Training as a Means of Mental Improvement.—The *American Journal of Insanity* for January, 1891, contains Dr. H. D. Wey's paper that gives a view of some results obtained at the Elmira Reformatory by means of physical training. A prison is in a sense a hospital for the treatment of moral atrophy and disease whose outward and visible manifestation is crime. Criminals are defective specimens of humanity, often bearing a close resemblance to idiots and the insane. In his work on idiocy Dr. Seguin noted that the beginning of the treatment of each child was where his natural progress stood still. The youthful criminal is often in arrears physically. His body is inharmonious, asymmetrical, and attenuated. Physical training raises him from the purely vegetative state into a condition where the nervous system is somewhat beyond the rudimentary type. The elements of physical training are free movements and various appliances, the bath and massage, and dietetics. Most excellent results have been obtained.

Syringomyelia.—*Brain*, Part III, 1890, contains Dr. Paul Blocq's exhaustive paper on Syringomyelia. Within the past two years discussions and observations upon this subject have been renewed in publications appearing simultaneously in different countries. Debove and Dejerine were the first to bring the clinical aspects of the disease into prominence by exhibiting patients at the *Société médicale des hôpitaux.* The author gives as a definition the following: Syringomyelia is a chronic affection of the spinal cord, characterized anatomically by cavities formed pathologically in this organ, and clinically by certain alterations in sensibility associated with trophic disorders. In ordinary cases there are irregular increase in size and deformity of the cord. The lacunæ are always situated in the gray matter, their position in order of frequency being this: First, in the two posterior horns, then in the two anterior and any one of the four horns indifferently. The lesion is usually bilateral. The extent and size of the cavities vary, and the direction of the pathological canal is not absolutely straight, but more or less bent upon itself. The cervical enlargement is most frequently affected, and the cavity extends upward for several centimetres, then downward through the entire dorsal region, leaving the lumbar portion of the cord unaffected. There are marked changes in some peripheral nerves. Authorities are divided as to the nature of the microscopic changes; the majority consider that they consist in a neoplastic hyperplasia of the neuroglia of the gray or gliomatous matter, while others incline to the opinion that the pathological change is an inflammatory hyperplasia or myelitis. The hypothesis of Schültze reconciles these apparently antagonistic ideas, to the effect that the new tissue is both neoplastic and inflammatory, for in the membrane there are changes going on to sclerosis—simple inflammation of an ordinary tissue—and in the neuroglia there are characteristics of gliomatous proliferation, which is typical inflammation of this special tissue, resulting in disintegration and the formation of cavities. This special inflammation is naturally gliomatous. But this special inflammation is only one part of the disorder, not the whole. It is neoplastic only in virtue of the tissue in which it originates. Schültze's eclectic and original view finds a foundation in recent works on the embryology of the brain and spinal cord, which show that the conjunctival membrane arises from the mesoderm, and the neuroglia from the ectoderm. The pathological changes in each would naturally be different. In syringomyelia there is a slow proliferation of the neuroglia, resulting in the formation of so-called gliomatous tissue. Phenomena of disintegration appear, either from disorders of circulation or from the simple fact of the natural tendencies of the tissue, and a cavity is formed. Thus it will be perceived that if the term gliomatous is applicable to the lesion, *neuroglic cavitary myelitis* is an expression that covers the ground very well. The age at which the disease appears is between fifteen and thirty-five. Men are more frequently attacked than women, in the proportion of three to one. There are but few facts collected in reference to heredity. Debilitating influences that in the parents predispose to nervous disease in the offspring are sometimes traced—such as injury, overwork, infectious diseases, and drink—yet often no such history is given. It is reasonable, therefore, to suppose that the cause lies in some embryological defect, chance causes like the foregoing having but an accidental effect through interference with the nutrition of the nerve elements and consequent diminution in their power of resistance to the hyperplastic tendency inherent in the neuroglia. Typical forms of syringomyelia begin insidiously by increasing weakness in the upper limbs and numbness and alterations of sensibility to pain, heat, and cold, while the sense of touch remains normal. There are spasmodic paresis or inco-ordination of the lower limbs; scoliosis in the dorso-lumbar region with its convexity to the left; atrophy, first of the muscles of the hand, then of the forearm, arm, and trunk; and various changes in the skin, such as the condition known as glossy skin, or the appearance of different eruptions, such as bullæ, eczema, and herpes. The nails are cracked, furrowed, and thickened, and may fall off. The secretion of sweat may be absent in certain regions and increased in others. Vascular disorders are of common occurrence. The bones are often thickened and brittle. The course of the malady is varied by exacerbations which disturb its regularity, and the symptoms may become exaggerated suddenly. The prognosis may be guardedly hopeful, for life may be prolonged with care at any stage of the disease. Without being less serious, it is not so fatal as many other myelopathies. There is no symptom which may be said to be pathognomonic; it is only by an appreciation of the symptoms as a whole that a diagnosis can be made. When there is decided predominance of some one of these disease manifestations, confusion may arise. The diagnostic signs may be classified in the following way:

Cases in which there is a predominant symptom:

I. Trophic disorders.	Sclerodermia, Leprosy, Morvan's disease, Neuritis.
II. Muscular atrophy.	Cervical hypertrophic pachymeningitis. Lateral amyotrophic sclerosis. Progressive muscular atrophy.
III. Motor disturbances of the lower limbs.	Transverse myelitis. Disseminated sclerosis. Tabes.
IV. Alterations in sensibility.	Alcoholic paralysis. Hysteria.

In every case symptomatic treatment should be faithfully employed. The muscular atrophy must be combated by electricity, the condition of the bladder carefully watched, the skin preserved from all chances of injury to which its analgesic state renders it liable, and all inflammatory processes, especially those of cellular tissues, most intelligently cared for. Suspension should be tried, and counter-irritation by the actual cautery or the tincture of iodine over the whole length of the spine. Drugs that tend to promote absorption, such as iodine or the alkaline iodides, may be given, also iron, quinine, etc., in the hope of improving the patient's nutrition.

Miscellany.

The Immediate Care of Persons Seriously Injured was the subject of the following remarks by Dr. W. A. M. Wainwright, of Hartford, Conn., at a meeting of the Hartford County Medical Society held on the 25th of April:

"It has been rather difficult to find a title which will convey an exact idea of what I have in mind in writing this brief essay. The subject I wish to bring to your notice is the prevailing custom of immediately sending seriously injured persons to the nearest hospital for treatment. And in doing so I wish to ask this question: Is this the proper care to be given to them? I do not intend to consider the subject at all from a surgical standpoint, although it might be instructively and interestingly written about from that point of view. I wish to consider it simply from a humanitarian standpoint. Of course the question does not apply to cases of injury occurring in the near neighborhood of a hospital; or to simple fractures, or other injuries where moving a patient does not seriously add to his sufferings, or jeopardize his chances of life. As by far the greater number of serious injuries brought to the hospitals are caused by railroad accidents, and as the nervous shock is so much greater in them than in injuries produced by other causes, we will take it for granted that railroad injuries are the ones under consideration, although the same things might be said of all classes of injuries.

"From the records of the Hartford Hospital, I find that in the past ten years forty-four subjects of railroad injuries have died within twenty-four hours after admission; in 1881, 2; in 1882, 4; in 1883, 8; in 1884, 4; in 1885, 3; in 1886, 4; in 1887, 2; in 1888, 3; in 1889, 7; in 1890, 7; total, 44.

"Many of this number were admitted in a state of hopeless collapse, and died within a few hours, there being no possibility of doing anything for them except to relieve their sufferings as far as possible. Others have succumbed to the added shocks of an operation, performed as a last but almost hopeless resort upon a patient injured hours before, and almost exhausted by suffering, exposure, and loss of blood. I do not wish to convey the impression that all such patients die after they get into the hospital; far from it. The records will show many cases of recovery when at the time of operation death seemed very near, and was only kept at bay by hospital care and nursing. But I am talking of the lost, not of the saved, and I firmly believe that the lives of many of these poor fellows might have been saved if they had been properly cared for at the places where the accidents took place, and not immediately moved to the hospital. If this statement is true of the forty-four cases sent to the Hartford Hospital, or even if it is true of only a small per cent. of the number, you can readily imagine how great the annual sacrifice of human life would prove to be if the total number of such cases admitted into all hospitals of the country could be computed. What is the use, and why is it not an abuse, to move a poor fellow, 'wounded to the death,' just for the sake of getting him to a hospital and having him die there before he can be taken from the stretcher upon which he is brought in? A more merciful plan would be to let him lie and die upon the railroad bank. Every hospital surgeon will, I think, recognize the following picture. He is called to the hospital, perhaps in the dead of a cold winter's night, by a message, nowadays usually sent through the telephone, telling him that 'a railroad accident has been brought in.' He finds in the accident room a poor fellow with a crushed leg, bloody and bleeding, a piece of rope twisted over a stick upon the thigh—constricting it so tightly that it has itself almost performed the amputation—the broken bones protruding, the crushed limb dangling with the heel probably turned upward; pulseless, with the cold sweat of death upon his brow, too far gone to stand the additional shock of an operation. He must be left to die.

"The surgeon finds upon inquiry that the injury was received perhaps a half-dozen hours before and thirty or forty miles from the hospital. The unfortunate victim has had to lie for several hours in pain and suffering waiting for the regular train to come along, and like as not has had to be moved from one train to another to make a necessary connection, to say nothing of the final journey in an express wagon from the city station to the hospital. This last mile's ride, when it is in Hartford, has, I am glad to say, within the last year or so been made easier by the use of a modern ambulance which has been provided by the city authorities. Does it not seem to you that the only chances which this man had for life have been sacrificed by sending him to the hospital? Perhaps the railroad companies are not to be blamed for ordering their wounded to be sent at once to the nearest hospital. It is much cheaper for them to pay six dollars a week to the hospital for the long or short (in many cases the short) time the injured man is in its charge than it would be to send a surgeon to the patient, and paying him a reasonable fee for doing what was necessary then and there. Nor perhaps can you blame the country practitioner (when the accident occurs at a distance from the city) for wanting to get such cases off his hands as soon as possible, having but little experience in this class of surgery, and believing that better care will be obtained in the hospital. Moreover, the physical condition immediately after an injury is often not seriously impaired, and the local doctor does not take into consideration what that condition may be after hours of pain, exposure, and loss of blood. I think the custom is all wrong and that many lives which are now sacrificed would be saved if it could be changed. If necessary, I would have the railroad companies compelled by law to take better and proper care of persons injured by their accidents. I have no doubt, however, that the law of humanity would be quite as binding and as willingly obeyed if the subject could in a proper way be brought to the attention of their boards of directors. I would have the profession instructed to insist that the injured person should only be moved to the nearest comfortable quarters (and these can be found wherever a railroad runs) and not bundled off to the nearest hospital, which may be twenty or thirty miles distant. If the doctor called in the emergency does not feel equal to the task of doing what is necessary, let a competent surgeon be sent for. If an operation is to be done, let it be done then and there, and afterward, if desirable, let the patient be moved to the hospital for after-treatment. Twenty-four or forty-eight hours would usually decide the question of removal.

"The risk to the lives of the injured will be, in my judgment, much less in moving them after an amputation, with a stump carefully and antiseptically dressed and after they have recovered from 'immediate shock,' than it is in removing them in the crushed and mangled and exhausted condition in which they are often received at the hospital.

"On the other hand, if, in the judgment of the experienced surgeon, an immediate operation is not justifiable, let the last few hours of the patient's life be made as comfortable and free from pain as human skill can suggest, and do not let him be submitted to the unnecessary suffering of a long and tedious journey to a hospital, thereby oftentimes taking away the only chance of life. In many cases, I believe, an operation which might with safety and success have been performed at the place where the injury was received, and soon after its occurrence, is rendered impossible by the delay and the physical exhaustion incident to the journey to the hospital.

"The nervous shock in injuries from railroad accidents is usually much greater than in injuries caused by other kinds of accident, and yet it is this very class of cases that is called upon to bear this severe and oftentimes fatal strain upon the nervous system.

"In the *New York Medical Journal* of March 7, 1891, is an interesting paper on Railroad Surgery, by Dr. Charles B. Herrick, of Troy, N. Y., which was read before the Medical Society of the State of New York at its last meeting. In it he touches upon this point and says: 'In conclusion, as so much depends on the condition of the injured when brought to the operating table, and as we have seen that the delay, septic danger, and mishandling of a dangling or crushed extremity, with the loss of blood and prostration, do so much toward producing this exhaustion, would it not be a humane and advisable expedient to place some means at hand to assist in warding off this influence? I believe that this could be rendered feasible by having each "caboose" and baggage-car carry a packet containing splints and antiseptic dressings of a simple nature, and so labeled that any man of ordinary intelligence would be able to apply them to the injured. It would certainly render their condition more comfortable and the wounds less liable to become septic until the patient arrived at a place where the aid of a surgeon could be had.'

"I would indorse all that he says, but would go a step further and, instead of saying 'until the patient arrived at a place where the aid of a surgeon could be had,' I would say that, unless that place was a very short distance off, let him be kept where he was—in that same 'caboose,' if no better place could be found—until a surgeon could be found to come to him."

Antikamnia.—Dr. G. C. Eggers, Jr., of Florisant, Mo., writes as follows to the Antikamnia Chemical Company, of St. Louis: "I have been using antikamnia for the past ten months, and up to within the past month uniformly obtained results which justified in every particular the claims made for your product. In fact, its usefulness to me was so completely established that I had come to regard it as an absolute *sine qua non* in my practice. Within the past month I have had some inexplicable failures in cases where antikamnia never before disappointed. Upon carefully reviewing the subject, I find that during the entire period I purchased direct from you I had no failures to record; latterly, however, I have purchased from convenient retailers. Within the last two or three months I have noticed in various medical journals several alleged formulæ for antikamnia, varying so materially that their very disagreement successfully establishes their falsity. I am led to believe that some druggists are supplying a compound made according to one or the other of these formulæ, and dispensing it as antikamnia. I wish you would look into this. When I prescribe antikamnia, I want antikamnia and nothing else."

Methyl-violet and Safranin as Antiseptics.—The *British and Colonial Druggist* says: "At a recent meeting of the Société de Biologie, MM. Hugounencq and Eraud reported the results of some experiments on the antiseptic power of methyl-violet and safranin. By testing these substances with cultures of staphylococci and gonococci they found the virulence of these organisms was attenuated when they were left in contact with them for a short time in a diluted solution. If the contact was prolonged and a more concentrated solution was used, the vitality of the microbes was impaired and possibly destroyed. In order to produce a therapeutic effect, therefore, it is necessary that strong solutions of methyl-violet and safranin should be employed, and that they should be left sufficiently long in contact with infected surfaces. In the treatment of whitlow, anthrax, and soft chancre, both substances act better in proportion to the frequency of the applications. In gonorrhœa excellent results are obtained by the injections of 1 in 100 and 1 in 150 solutions from ten to fifteen times a day. If only three or four injections are given in the day, neither the character nor the duration of the discharge is influenced in any way."

To Contributors and Correspondents.—*The attention of all who purpose favoring us with communications is respectfully called to the following:*

Authors of articles intended for publication under the head of "original contributions" are respectfully informed that, in accepting such articles, we always do so with the understanding that the following conditions are to be observed: (1) when a manuscript is sent to this journal, a similar manuscript or any abstract thereof must not be or have been sent to any other periodical, unless we are specially notified of the fact at the time the article is sent to us; (2) accepted articles are subject to the customary rules of editorial revision, and will be published as promptly as our other engagements will admit of—we can not engage to publish an article in any specified issue; (3) any conditions which an author wishes complied with must be distinctly stated in a communication accompanying the manuscript, and no new conditions can be considered after the manuscript has been put into the type-setters' hands. We are often constrained to decline articles which, although they may be creditable to their authors, are not suitable for publication in this journal, either because they are too long, or are loaded with tabular matter or prolix histories of cases, or deal with subjects of little interest to the medical profession at large. We can not enter into any correspondence concerning our reasons for declining an article.

All letters, whether intended for publication or not, must contain the writer's name and address, not necessarily for publication. No attention will be paid to anonymous communications. Hereafter, correspondents asking for information that we are capable of giving, and that can properly be given in this journal, will be answered by number, a private communication being previously sent to each correspondent informing him under what number the answer to his note is to be looked for. All communications not intended for publication under the author's name are treated as strictly confidential. We can not give advice to laymen as to particular cases or recommend individual practitioners.

Secretaries of medical societies will confer a favor by keeping us informed of the dates of their societies' regular meetings. Brief notifications of matters that are expected to come up at particular meetings will be inserted when they are received in time.

Newspapers and other publications containing matter which the person sending them desires to bring to our notice should be marked. Members of the profession who send us information of matters of interest to our readers will be considered as doing them and us a favor, and, if the space at our command admits of it, we shall take pleasure in inserting the substance of such communications.

All communications intended for the editor should be addressed to him in care of the publishers.

All communications relating to the business of the journal should be addressed to the publishers.

THE NEW YORK MEDICAL JOURNAL, May 30, 1891.

Original Communications.

THE PATHOLOGY OF ACUTE ASCENDING (LANDRY'S) PARALYSIS.*

By HENRY HUN, M. D.,
PROFESSOR OF DISEASES OF THE CHEST AND NERVOUS SYSTEM IN THE ALBANY MEDICAL COLLEGE.

The following case of Landry's paralysis which I have recently observed seems to me not unworthy of publication, especially at this time when the attempt is being made on many sides to class this disease as one of the forms of multiple neuritis:

G. C., aged forty-five years, a salesman, unmarried, entered the Albany Hospital on April 18, 1890. His family history was good, and he, with the exception of a gonorrhœa contracted at the age of twenty-six years, had always enjoyed good health, and in especial he had never had either syphilis or rheumatism. In the winter of 1886, while skating on roller skates, he fell and struck his sacrum against the edge of a bench, in consequence of which fall he felt some soreness and stiffness in his back, which passed off entirely in a week, and which did not at any time interfere with his ordinary duties. About four months after this fall he felt a sudden "lightness" in the left leg, and a feeling as if there was a tight band about the left ankle, which feeling of constriction about the ankle has persisted up to the present time. He has had some slight pain in both legs, especially in the left, at various times, always worse before a storm; but these pains have troubled him but very little during the past year. In January, 1890, he had what his physicians called an attack of "plastic iritis" of the right eye, and since that time the sight in that eye has been somewhat impaired. Of late he has felt some stiffness in his legs and has taken walks of several miles daily "to limber himself up." About one week ago (April 11th) walking became difficult, and he felt "as if he was dragging weights on his feet." At this time he was examined by Dr. H. Lyle Smith, of Hudson, who found a weakness of the muscles of the legs and diminished knee-jerks, and who prescribed fluid extract of ergot. The patient continued at work, although his walking gradually became worse, until the 15th of April, when he was obliged to go to bed, having lost completely the power of the muscles of his legs below the hips. At the same time he noticed a slight weakness of his hands and arms, and a difficulty in speech (during the past month he had noticed that his voice was somewhat husky and that mucus was excreted in excess). Since he has been confined to his bed it has been necessary to draw off his urine with a catheter, and his bowels have been constipated. The muscles of his body have become paralyzed so that he has been unable to sit up in bed. His arms have grown weaker, his voice has become more husky, and deglutition has grown difficult. His appetite has been good, and he has suffered no pain.

Physical Examination.—Well nourished. Ptosis of right eyelid, which he says is voluntary and due to impairment of vision. This impairment of vision seems to consist of diplopia, one object being to the right of and lower than the other. Decided paralysis of lower branch of left facial nerve. Tongue protruded straight, no tremor of tongue or lips, and no muscular atrophy or fibrillary contraction. Breath very offensive and tongue covered with a white coat. He can whistle with difficulty. Speech thick and indistinct. Deglutition so difficult that he has to be fed with a stomach tube. Mucus collects in the trachea and patient can eject it only imperfectly. Hearing, smell, and taste are normal. Grasp of left hand null. Grasp of right hand very feeble. Flexors and extensors of upper arm very feeble, but more powerful than those of forearm. Muscles of shoulder feeble, but more powerful than those of arm. Muscles of body paralyzed so that he can neither sit up nor move in bed. Absolute motor paralysis of both legs and thighs. Absence of plantar, cremasteric, umbilical, and patellar reflexes. No muscular tenderness, fibrillary contraction, nor atrophy. No disturbance of sensibility to tactile (tested with pin-head and cotton), thermic, or painful impressions anywhere. No retardation of conduction of pain. Bladder and rectum inactive. Urine drawn off with catheter and bowels moved by injection. Temperature and pulse normal. His treatment consisted in a drachm of iodide of potassium and half a drachm of salicylate of sodium daily.

April 20th.—Patient is growing weaker. He has more difficulty in expelling phlegm by coughing and his speech is becoming more difficult. Temperature normal, pulse 85.

22d.—Growing weaker. The left-sided facial paralysis continues unchanged, and, in trying to cough, the muscles connected with the larynx and jaw on the right side of the neck can be seen to contract decidedly, while those on the left side remain passive. To-day the muscles of both arms are much weaker, and those of the right arm and shoulder are weaker than those of the left, so that he can scarcely move the right arm at all. The muscles of the legs continue absolutely paralyzed. There is nowhere any muscular atrophy, tremor, or disturbance of any kind of sensibility, and there is no muscular tenderness. All the muscles of both legs respond decidedly and quickly to the chloride-of-silver faradaic battery (the roll being shoved into between the marks 60 and 70). The difficulty of speech and of respiration is so great that it does not seem possible that he can live twenty-four hours; the coarse mucous râles in the trachea can be constantly heard.

23d.—At 11.30 A. M. he seemed better than yesterday. The symptoms remained without change, except that his voice seemed somewhat stronger, although still very indistinct, but at 12 M. he began to fail rapidly. He first became deaf; about half an hour later he became entirely blind, a quarter of an hour later he became comatose, and about a quarter of an hour later, his respirations having become steadily slower and more difficult, and being only three to five a minute, he died, the pulse being of fair quality, although rapid, almost to the moment of death, and continuing after the respiration had ceased.

Autopsy, held Eight Hours after Death.—Thorax and abdomen not examined. Post-mortem rigidity slightly marked. Spinal cord seemed normal, except that the lumbar portion seemed to be slightly œdematous, and the outlines of the gray matter in this region a little less clear than normal. Brain seemed normal, except for a somewhat increased amount of subarachnoid fluid over both parietal regions. At junction of ascending and horizontal arm of left fissure of Sylvius was a patch of white thickened cicatricial pia mater (as large as a silver quarter of a dollar) adherent to the cerebral cortex; the convolution at this point seemed atrophied. About an inch above this point on the anterior central convolution was a small piece of bone, about a half by a quarter of an inch, firmly adherent to the pia mater. The corresponding portion of the dura mater was fenestrated, and the bone of the skull at this point was roughened and presented several deep holes filled with fresh blood exuding from the veins in the bone. The arteries at the base of the brain were not atheromatous, and the ventricles of the brain were not dilated. The nervous organs were placed in Müller's fluid, which was changed once after about three hours, and then sent immediately to Dr. Van Gieson for examination. His examination was so very thorough that I may be pardoned in presenting it at length.

---

* Read before the New York Neurological Society, April 7, 1891.

Microscopical Examination.—The brain, spinal cord, and peripheral nerves were hardened in a two-per-cent. solution of bichromate of potassium for six weeks, and subsequently in eighty per cent. alcohol, and finally in strong alcohol. The sections were stained doubly by hæmatoxylin and picro-acid fuchsin, and by Weigert's method.

The *cerebral pia mater* contains in its meshes a moderate accumulation of small round and cuboidal cells which appear to be derived partly from the connective-tissue cells of the pia mater and partly by emigration from the blood-vessels. This condition of the pia mater is quite uniform over the whole convexity of the brain, and is not more extensive over the motor zone than elsewhere.

The Cerebral Cortex.—Sections from the paracentral lobule, from the middle of the precentral and postcentral convolutions of both sides, and from the lower junction of the central convolutions on the left side show nothing abnormal about the structure or arrangement of the elements of the cortex. The large multipolar ganglion cells in the paracentral lobule and the præcentral convolution are unchanged. They are not present in the post-central convolution. The blood-vessels of the cortex are normal. Sections of the basal ganglia show nothing abnormal.

The crus, pons, and medulla are normal. The nuclei of the third, fifth, sixth, seventh, tenth, eleventh, and twelfth nerves were examined in detail for changes in the motor ganglion cells, but the latter are not changed in structure or deficient in number.

The spinal cord was divided into thirty-one segments, corresponding to the insertions of the nerve roots, and sections from each of these segments were thoroughly examined by Weigert's method, and with double staining by hæmatoxylin and picro-acid fuchsin. There are no changes in the substance of the spinal cord, except some slight alterations in the ganglion cells of the anterior horns. Some of the ganglion cells stain faintly, have a vitreous, homogeneous appearance, and appear to be swollen; but these changes in the ganglion cells are so slight, and affect so few of them in such an irregular way, that the alterations in the ganglion cells may be ascribed to the bichromate hardening, which does not preserve the ganglion cells perfectly.

To eliminate the artificial changes in the ganglion cells which might be produced by the bichromate hardening, small portions from the sixth cervical and third lumbar segments were hardened in absolute alcohol, a better preservative agent for the ganglion cells. The ganglion cells in these portions hardened in alcohol are well preserved and seem perfectly normal.

The ganglion cells from the hypoglossal nucleus and from the anterior horns of the spinal enlargements were examined in the fresh condition, and no changes could be found.

The spinal pia mater contains in its meshes, especially in the dorsal region, a moderate number of small round cells. A few of the larger and smaller veins of the spinal pia mater have their walls infiltrated with small round cells (Fig. 3, A).

The anterior spinal vein and its branches in the dorsal and lower cervical regions are not only infiltrated with small round cells, but their walls are considerably thickened in places. The lumen of the vein, however, does not appear to be narrowed. Fig. 1 shows this infiltration and thickening of the anterior spinal vein, which may be appreciated better by comparing with Fig. 2, illustrating the normal structure and thickness of the anterior spinal vein. (The lumen of the vein in Fig. 1 is very nearly normal; it looks small when contrasted with Fig. 2, but this is due to the fact that in Fig. 2 the sections were taken from a larger cord which had a correspondingly larger anterior spinal vein.)

How much interference, if any, this condition of the anterior spinal vein may have made in the circulation of the gray matter is very questionable, and no special significance is attached to this change in the vein. The change in the anterior spinal vein seems to be simply a part of the general infiltration of the pia mater, which may very well have occurred secondarily during the course of the disease, if not during its latter stages.

Hyaline thrombosis, recently described in Landry's paralysis by Klebs,* in the central arteries of the cord, was not found in this case. (In two places—in a small vein passing out of the hypoglossal nucleus, and in a capillary in the motor cortex—hyaline plugs were found, but the perfectly normal condition of the gray matter surrounding these two vessels indicated that the hyaline plugs were a post-mortem occurrence.)

The Cranial and Spinal Nerve Roots.—The root strands of the facial, acoustic, trigeminus, vagus, and hypoglossal nerves, and also many of the anterior roots of the cervical, lumbar, and sacral regions of the cord, were hardened in osmic acid. The cranial and cervical nerve roots show no changes except those due to manipulation and imperfect preservation. There is no evidence of degeneration or neuritis in these roots. The anterior roots of the cauda equina show, in a slight degree, the changes of neuritis or degeneration of the nerve-fibers (Figs. 4 and 5). The degenerated fibers are not numerous, comprising about one tenth of the fibers of the anterior roots of the cauda equina. Transverse sections of the cauda equina show in places a considerable number of small round cells lying about and between the nerve fibers (Fig. 6). Whether the small round and branching cells of the cauda equina are actually increased to any extent is difficult to determine, and for this reason, and from the fact that Nauwerck and Barth describe an increase of cells in the cauda equina in Landry's paralysis, Fig. 6 has been drawn to show definitely the number and distribution of cells in the cauda equina. The number of cells in the cauda equina is practically normal.

The peripheral nerves examined were the median, a branch of the musculo-spiral, and the trunk of the sciatic. Sections of these nerves, stained in the same ways as the central nervous system, show nothing abnormal. Portions of all of these nerves were also preserved in osmic acid (one-per-cent. solution) and examined, without finding any alterations.

The semi-tendinosus and biceps muscles are normal. They were examined in the fresh condition, and sections were made of the hardened muscles.

Bacteriological Examination.—Glycerin-agar plates were planted from the hypoglossal nucleus, from the motor cortex, and from the anterior horns of the spinal enlargements, and nothing grew on the plates. Cover-glass preparations of the gray matter from the same places were stained with the simple aniline dyes, with Löffler's solution, and by Gram's method, but no bacteria were found. Sections of the cord, hardened in alcohol, were stained for bacteria in various ways, and examined with the oil-immersion lens with negative results. Sections of portions of the peripheral nerves, hardened in alcohol, were carefully examined for micro-organisms, but neither the bacilli which Centanni† found in the peripheral nerves in Landry's disease, nor any other kind of bacteria, were discovered.

---

* *Deutsche medicinische Wochenschrift*, January, 1891.

† *La riforma medica*, July, 1889.

The results of the microscopical examinations are: A slight cerebral and spinal meningitis and infiltration of the walls of some of the veins of the spinal pia mater, and a degeneration (or neuritis) of some of the fibers of the anterior roots of the cauda equina, the nervous system in other respects being normal.

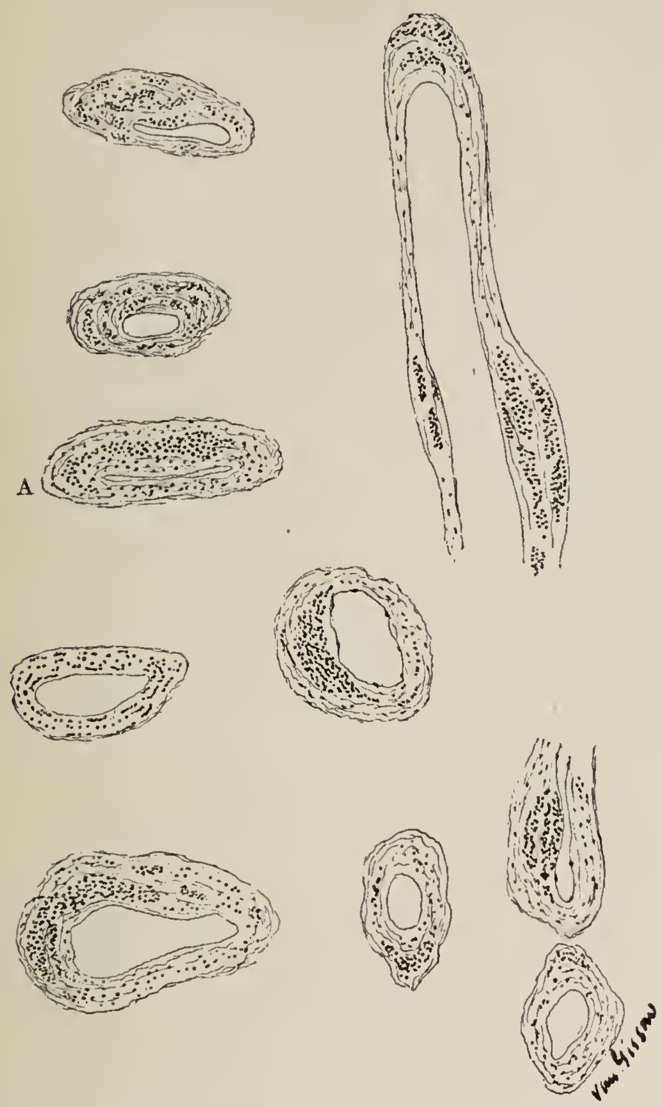


Fig. 1, showing the infiltration and thickening of the walls of the anterior spinal vein. In the section A the walls have collapsed so that the lumen is artificially closed. The lumen is nearly normal.

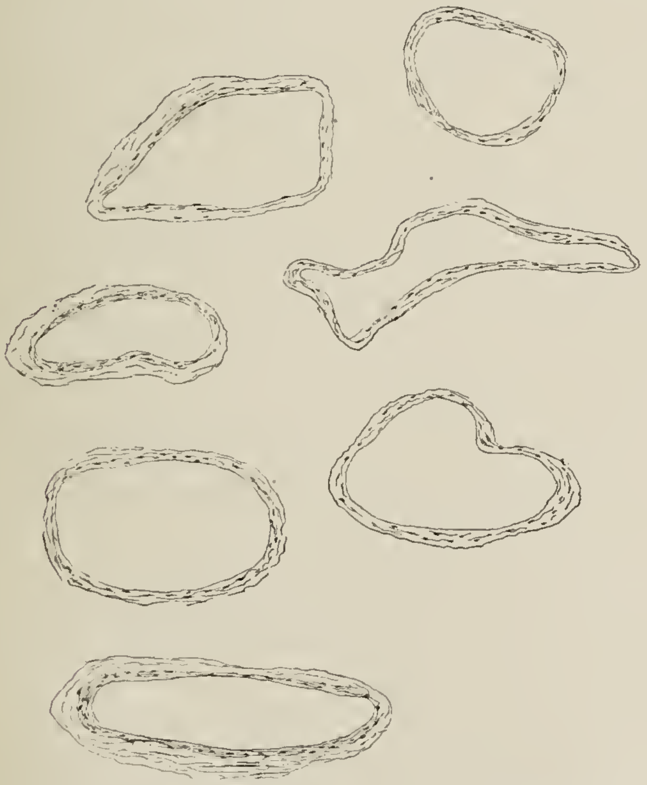


Fig. 2.—Sections showing the normal structure and thickness of the anterior spinal vein. Taken from a larger cord having a correspondingly larger vein than in Fig. 1.

We have here, then, the case of a man who is suddenly attacked by a paresis of the legs which, in the space of four days, becomes a complete paralysis, and then the muscles of the trunk, arms, and parts supplied by the bulbar nerves become paretic in the order named, and this paresis becomes a more and more decided paralysis until death from bulbar paralysis puts an end to the further extension of the process. The paralysis was a purely motor one, the sensory

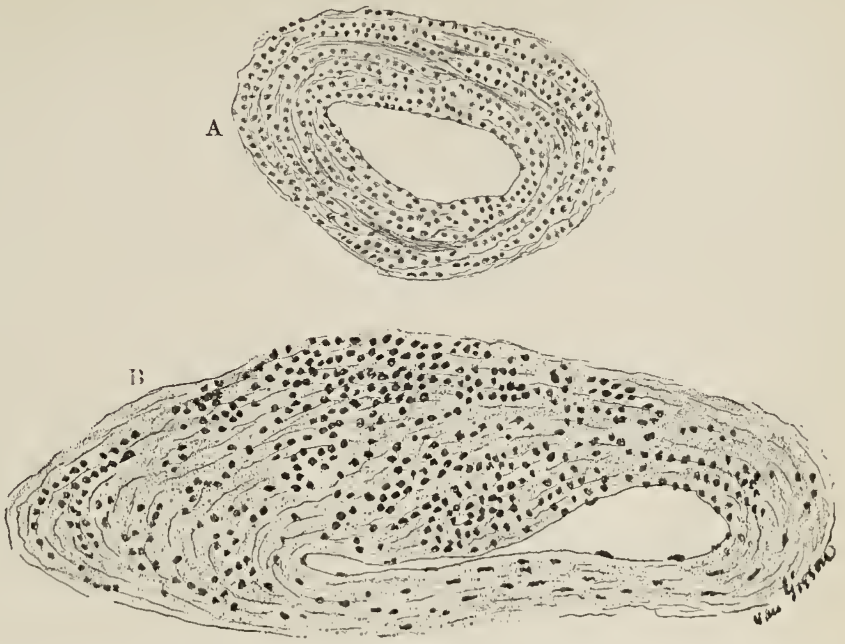


Fig. 3.—(A) Thickened and infiltrated vein accompanying one of the anterior dorsal spinal nerve roots. (B) Thickened and infiltrated anterior spinal vein.

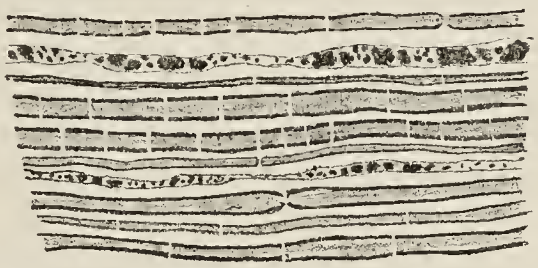


Fig. 4, showing the average number of degenerated fibers in the anterior roots of the cauda equina.

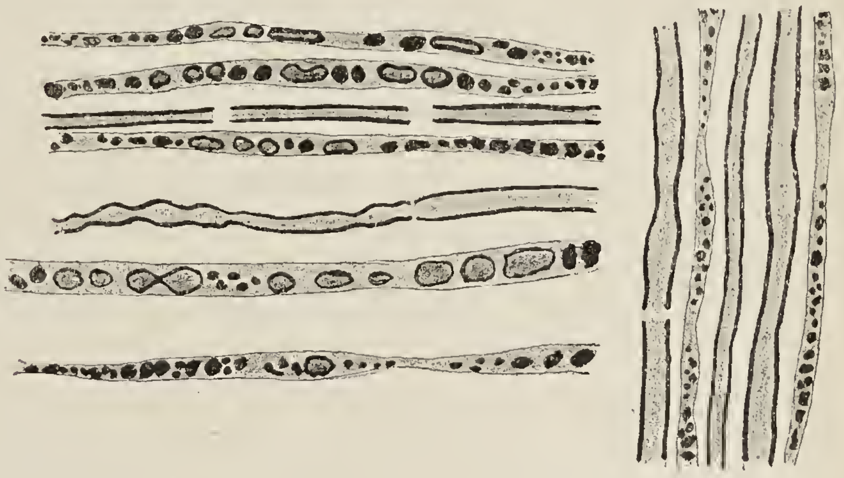


Fig. 5, from a place selected to show the maximum number of degenerated fibers.

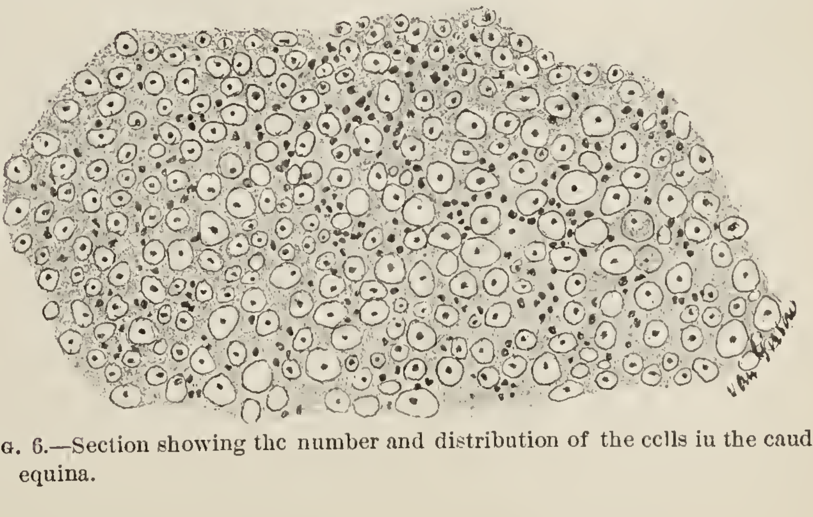


Fig. 6.—Section showing the number and distribution of the cells in the cauda equina.

nerves not being involved, and the sphincters of the bladder and rectum were not involved, although the paralysis of the abdominal muscles made the expulsion of the contents of these viscera difficult or impossible. As a result of the post-mortem examination, we have a slight cerebral and spinal meningitis of quite recent origin, a degeneration of a few of the fibers of the anterior roots of the cauda equina, and a thickening and infiltration of the walls of the anterior spinal vein.

This complex of symptoms corresponds entirely with the clinical picture of the disease—acute ascending paralysis—which was first clearly described by Landry [*] in 1859, and which has since been generally called in his honor by the name of Landry's paralysis, or by the name which Landry himself gave it, acute ascending paralysis. The only unusual symptom in the case reported was the diplopia, a symptom which is not common in Landry's paralysis, although it has been observed by Pellegrino-Levi,[†] and the usual ætiological factors—*i. e.*, exposure to cold or previous occurrence of some infectious disease—were not present in this case. It is very doubtful whether the blow on the back received four years previous to his death had any connection with the disease. The slight lesions found in this case are altogether insufficient, both in extent and in intensity, to explain the severe symptoms present during life, and this case goes far to confirm the previously accepted view that acute ascending paralysis is not associated with any appreciable lesion.

It is not a desirable thing to overburden our already long list of nervous diseases with additional names, and it is a question demanding careful consideration whether acute ascending paralysis can not be regarded as a variety of some other well-recognized nervous disease. In answer to this question we must say that there are only three diseases of the nervous system which bear any close resemblance to acute ascending paralysis—viz., bulbar paralysis, myelitis of the anterior horns, and multiple neuritis.

Certainly acute ascending paralysis can be easily distinguished from bulbar paralysis, for in this latter form of disease the disturbances in respiration and deglutition are the first, or at least very early, symptoms, to which the paralysis of the arms and legs is quite subordinate, and this paralysis usually involves sensation as well as motion, while the tendon reflexes are not only present but are exaggerated. It is true that a few cases have been reported under the title acute ascending paralysis in which lesions have been found in the medulla oblongata or in the upper cervical region of the cord, but these cases were either not acute ascending paralysis at all, as in the case reported by Leyden,[‡] or the lesions were too small to explain the symptoms, as in the case of Kümmel,[#] or, finally, the lesion was of a very indeterminate nature and not found in other cases, as the patches of exudative matter deeply stained by carmine found by Eisenlohr,[*] and the swollen axis cylinders and minute hæmorrhages found by Hoffmann.[†]

Myelitis of the anterior horns bears a closer resemblance to acute ascending paralysis, although bulbar symptoms occur very rarely in the former disease. In both diseases there is a widespread motor paralysis with abolition of reflexes and without any disturbance of sensibility or of the organic reflexes; and the attempt has been made by Petitfils,[‡] Bernhardt,[#] and others, to classify acute ascending paralysis as a form of myelitis of the anterior horns in which, in consequence of the rapidly fatal termination, the muscles do not exhibit the characteristic electrical reaction of degeneration during life, nor do the nerve cells in the anterior horns exhibit any definite changes in death. These assumptions were disproved by Westphal,[‖] who, in several cases of relatively long duration, found neither lesions after death nor the electrical reaction of degeneration during life. Since the publication of Westphal's paper the early appearance of muscular atrophy and that of the electrical reaction of degeneration have been regarded as diagnostic symptoms, and are sufficient to distinguish clinically myelitis of the anterior horns from acute ascending paralysis; while at the autopsy of cases of myelitis of the anterior horns a definite lesion is found sufficient to explain the symptoms observed during life. Although in most cases there is no great difficulty in distinguishing these two forms of disease from each other clinically, yet some cases of myelitis of the anterior horns simulate the symptoms of acute ascending paralysis quite closely, as, for instance, the cases reported by Sudeykine [△] and Immermann. [◊]

Multiple neuritis bears a very close resemblance to acute ascending paralysis, and, just as twenty years ago, when myelitis of the anterior horns was attracting great attention, the attempt was made to regard Landry's paralysis as a form of it, so, during the past five years, when multiple neuritis has been attracting much attention, the attempt has been made to regard Landry's paralysis as one of its forms, but neither attempt has been as yet successful. Certainly, to one who has observed cases of both diseases, there is a decided difference in the clinical picture of Landry's paralysis and multiple neuritis. There can be no doubt that many of the cases which have been reported under the name of acute ascending paralysis are really cases of multiple neuritis; but in every such case in which the autopsy has revealed a multiple neuritis, even of slight degree, the symptoms of bulbar paralysis were absent or very slightly marked,[‡] and there was present during life either a decided disturbance of sensibility, manifesting itself by severe pain or by extensive anæsthesia,[*] or else a paralysis of the sphincters,[†] or else the muscles presented a more or less well-marked electrical reaction of degeneration, and were tender on pressure and atrophied [‡]—symptoms which form no part of the clinical picture of the disease described by Landry.

---

[*] *Gazette hebdomadaire*, 1859, pp. 472 and 486.

[†] *Archives générales*, 1865, i, p. 123.

[‡] *Allg. Zeitschrift f. Psych.*, 1875.

[#] *Zeitschrift f. klin. Med.*, 1881, ii, p. 273.

[*] Virchow's *Archiv*, 1878, lxxiv, p. 73.

[†] *Archiv für Psychiatrie*, 1884, xv, p. 140.

[‡] *Considérations sur l'atrophie aiguë des cellules motrices*, Paris, 1879, p. 93.

[#] *Berl. klin. Wochenschrift*, 1871, No. 47.

[‖] *Archiv f. Psychiatrie*, Bd. vi, p. 765.

[△] *Russk. Med.*, St. Petersburg, 1886. *Ctrlbl. f. klin. Med.*, 1887.

[◊] *Poliomyelitis Anterior Acuta, Subacuta et Chronica.* By Charles Morel. Basel, 1890.

[‡] Difficulty of respiration due to paralysis of the intercostal or phrenic nerves can not be regarded as a symptom of bulbar paralysis in the absence of any disturbance in deglutition and speech.

It is true that cases of multiple neuritis present so much variation in the relative prominence of the sensory and motor symptoms, in the completeness of the electrical reaction of degeneration, and in their other symptoms, that it seems somewhat artificial to insist on separating the complex of symptoms constituting Landry's paralysis from the general class of multiple neuritis. But if we do make such a separation, we can find in medical literature some two dozen cases of well-marked Landry's paralysis, while many other cases reported under this title are cases either of multiple neuritis or are too imperfectly reported to allow of a diagnosis being made. Of these cases, six terminated in recovery ;[#] in twelve cases the disease terminated fatally, but the peripheral nerves were not examined ;[‖] while at least six cases similar to the one which forms the basis of this paper have been reported by competent observers—such as Westphal,[△] Cornil,[◊] Bernhardt,[↧] and Leyden [↕]—in which during life the paralysis was a purely motor one, followed an ascending course, and extended to the medulla, there being no involvement of the sphincters nor any reaction of degeneration, and in which, after death, the most careful examination of the central and peripheral nervous organs failed to reveal any lesion.

It must be confessed that most of these observations are of rather old date, and, further, it may be urged that typical cases of Landry's paralysis run such a rapid course that death occurs before the reaction of degeneration and structural changes in the nerve fibers have had time to develop. But in those cases which run a slower course the reaction of degeneration does not occur, and even at the outset of the disease cases of acute ascending paralysis differ from cases of multiple neuritis by the absence of those decided sensory disturbances which are so characteristic of the latter disease. And, finally, those very acute cases of multiple neuritis which terminate fatally in the course of a few days, as in the cases reported by Putnam [*] and Rosenheim,[†] or in a few hours, as in the case reported by Pitres and Vaillard,[‡] present the well-marked lesion of a neuritis.

Two papers have recently appeared, in which the attempt is made to prove that Landry's paralysis is a form of multiple neuritis, which are so very elaborate that they demand especial notice. One of these papers was published in England by Ross, and the other in Germany by Nauwerck and Barth.

Ross [#] makes a comparative study of a large number of cases of acute ascending and allied forms of paralysis. Of course, it is possible—by including in a list of cases of acute ascending paralysis a number which, by their clinical course and by the lesions found at the autopsy, are evidently cases of multiple neuritis, and then making a summary of the symptoms found in all these cases—to so obliterate the lines dividing the two diseases from each other that acute ascending paralysis will resemble more and more closely multiple neuritis, and the greater the number of cases of this latter disease which are included in the list, the greater will this resemblance be. This is what Ross does in his article ; but even he agrees with the first conclusion of Nauwerck and Barth, that cases of typical acute ascending paralysis do occur in which it is impossible after death to discover any lesion.

Nauwerck and Barth,[‖] after a long discussion of the previously reported cases of acute ascending paralysis and of some allied forms of disease, arrive at the following conclusions :

1. A typical acute ascending paralysis, with slight sensory symptoms, without implication of the sphincters, and without any diminution of the electro-muscular excitability, may prove fatal, and it may be impossible to discover any anatomical changes in either the central or the peripheral nervous system.

2. No sure proof has hitherto been afforded that the clinical picture of an acute ascending paralysis can be produced by disease of the medulla oblongata or spinal cord or of any part of the central nervous system.

3. If acute ascending paralysis is defined so as to in-

---

[*] Sensory symptoms were prominent in the cases reported by Nauwerck and Barth (Ziegler's *Beiträge z. path. Anat.*, etc., Bd. v, p. 1) and Eisenlohr (*Deutsch. med. Woch.*, Sept. 18, 1890).

[†] Paralysis of the sphincters was present in the cases reported by Déjerine (*Arch. de phys. norm. et path*, 1873, p. 312, and 1876, p. 312 ; *Comp. rend.*, 1878, lxxxvii, No. 3 ; and *Recherches sur les lésions du système nerveux*, Paris, 1879) and Roth (*Corresp.-Blatt. f. schweizer Aerzte*, 1883, No 13).

[‡] The electrical reaction of the muscles was altered in the cases reported by Déjerine (*Arch. de physiol. norm. et path.*, 1876 p. 312 ; *Comp. rend.*, 1878, lxxxvii, No. 3 ; and *Recherches sur les lésions du système nerveux*, Paris, 1879), Eichhorst (Virchow's *Arch.*, 1876, lxix), Eisenlohr (*Deutsche med. Woch.*, Sept. 18, 1890), Gombault (*Arch. de physiologie*, v, 1873, p. 81), and Schultz and Schultze (*Arch. f. Psychiat.*, Bd. xii, p. 458).

[#] These cases terminating in recovery have been reported by Mieth (*Deutsch. med. Woch*, 1885, xi, p. 67), Rendu (*La France médicale*, 1881, ii, p. 793), Sorgenfrey (*Neurolog. Ctrlbl.*, Bd. iv, p. 198), Oppenheim (*Wien. klin. Woch.*, 1890, No. 39, iii, p. 761), Ross (*Treatise on Diseases of the Nervous System*, second ed., vol. 1. p. 905), and Eiselt (*Aertz. Bericht. des K. K. allg. Krankenhaus z. Prag* [1880], 1882, p. 53).

[‖] These cases terminating fatally in which the peripheral nerves were not examined have been reported by Walford (*Brit. Med. Jour.*, 1853, p. 993), Chalvet (*Thèse de Paris*, 1871, p. 16), Dazet (*Revue médicale de Toulouse*, 1881, xv, p. 225), Emminghaus (*Verhand. d. phys.-med. Gesellsc. in Würzburg*, 1880, N. F. xiv, p. 17), Finny (*Brit. Med. Jour.*, 1882, vol. 1, p. 732), Kahler and Pick (*Arch. f. Psychiat.*, Bd. x, p. 313), Kümmel (*Zeitsch. f. klin. Med*, 1881, ii, p. 273), Aufrecht (*Path. Mittheil.*, Magdeburg, 1881, i, p. 170), Eisenlohr (Virchow's *Arch.*, 1878, lxxiii, p. 73), Mann (*Med. Chronicle*, 1887, vol. vi, p. 99), Féré (*Comptes rendus d. la Société de biologie*, 1888, vol. v, 3d s., p. 189), and Stair (*Med. Record*, 1882, vol. xxii, p. 355).

[△] *Arch. für Psychiatrie*, 1876, vi, p. 765.

[◊] Case of Pellegrino-Levi, reported in *Archives générales de médecine*, 1865, vol. 1, p. 132.

[↧] *Berlin. klinische Wochenschrift*, 1871, No. 47.

[↕] *Die Entzündung der peripheren Nerven*, Berlin, 1888, p. 21.

[*] *Boston Med. and Surg. Jour.*, Feb. 4, 1889.

[†] *Arch. f. Psychiat.*, Bd. xviii, Hft. 3.

[‡] *Arch. de physiologie*, 1887, ii, p. 150.

[#] *Medical Chronicle*, November, 1889, p. 102.

[‖] Ziegler's *Beiträge z. path. Anat. u. z. allg. Pathologie*, Bd. v, p. 3.

clude cases in which the loss of motor power is accompanied by more severe sensory symptoms, by affections of the sphincters, and especially by diminution or loss of the electro-muscular contractility or the reaction of degeneration, then a considerable number of observations have been recorded which warrant us in assuming a disease of the peripheral nerves alone.

4. It has not been proved that, even in the extended signification of the term, acute ascending paralysis can be caused by disease of the central nervous system.

At the close of their valuable paper Nauwerck and Barth report under the name of Landry's paralysis a case in which, after death, the medulla and spinal cord were normal, but an interstitial neuritis, without any degenerative changes in the nerve fibers,* was found in the cauda equina, and to a less degree in the anterior and posterior nerve roots throughout the spinal cord, while the bulbar nerve roots were normal. The muscles and the peripheral nerves were normal with the exception of the sciatic nerves, which were affected in the same way as the nerve roots. Their case then must be regarded as a multiple neuritis mainly limited to the nerve roots, and one factor in the production of the neuritis may well have been the tuberculous disease which was found in the lungs. Clinically the case resembles a case of multiple neuritis, and not one of acute ascending paralysis, in that the legs were the seat of sharp pains during many weeks and were almost absolutely anæsthetic, and the arms moderately so; the neuritis of both the anterior and posterior nerve roots thus producing characteristic symptoms in the domain both of motility and sensibility. There was no difficulty in swallowing, in breathing, or in speaking, there were no other bulbar symptoms, and the motor paralysis was showing decided improvement when the patient died in collapse. The fact that the patient died in collapse, apparently due to cardiac rather than to respiratory failure, can not be taken as sufficient proof of bulbar paralysis in the absence of any previous symptom of such paralysis. It is quite as reasonable to suppose, considering the weak condition of the patient resulting from the long-continued pulmonary tuberculosis and paralysis, that the collapse was due to the hæmorrhage found after death in the lumen and in the walls of the small intestine, or even if the autopsy revealed no cause for the collapse, it does not follow that bulbar paralysis was the cause of it. This case, then, occurring in a tuberculous patient and presenting severe disturbances both of motion and sensation without bulbar symptoms, running a chronic course and showing improvement in the paralysis previous to the sudden death, may be indeed a peculiar form of multiple neuritis, but can not be regarded as a typical case of acute ascending paralysis, and does not justify the conclusion of the authors "that Landry's paralysis is to be regarded as an infectio-toxic multiple neuritis."

Finally, Klebs † attempts to refer the symptoms of Landry's paralysis to a hyaline thrombosis of the branches of the central artery of the spinal cord, because in one case he found such a hyaline thrombosis which was exclusively limited to those branches of the central artery lying on each side of the central canal and supplying the anterior horns of gray matter. This thrombosis had apparently produced a dilatation of the circumcellular spaces about the motor cells, which dilated circumcellular spaces contained small round cells and a network of coagulated material. This lesion would explain the symptoms of the disease fairly well, but it is certainly of a very indeterminate nature. It has been found in only one case, and was not present in the case reported in this paper, and Hlaval * did not find this hyaline thrombosis in a case reported by him under the title of Landry's paralysis, but which is evidently a case of myelitis of the anterior horns.

In conclusion, it appears from this somewhat hasty and imperfect review of the subject that no conclusive evidence has as yet been brought forward which justifies us in abandoning the term acute ascending or Landry's paralysis, for neither has it been shown that those cases of the disease in which no lesion has been discovered depend on faulty methods of examination, nor has any case been reported which was clinically a typical case of Landry's paralysis in which, after death, characteristic lesions were found either in the central nervous organs or in the peripheral nerves. Acute ascending paralysis (defined so as to exclude all cases in which the sensory symptoms are prominent, or in which well-marked bulbar symptoms are not present) must therefore be regarded as a clinical entity for which no corresponding lesion has as yet been discovered. That there is some change in the nervous system causing the severe symptoms can not be doubted, but this change is probably of a chemical rather than of an anatomical character. From the many points of resemblance which acute ascending paralysis bears both to myelitis of the anterior horns and to multiple neuritis, this chemical change must affect either the motor cells of the spinal cord and medulla or the fibers springing from them; and, although this chemical change is so great as to cause an entire arrest of the function of those cells or fibers, yet it leaves no trace in any altered character of cell or fiber, no more than does morphine or strychnine leave any trace in the structure of the nervous system of their fatal action.

In regard to the nature of this supposed chemical poison we know nothing. The general tendency of the present day is to consider it to be a ptomaine, and indeed the acute course, the fact that it often follows an infectious disease, and that it is associated with an enlargement of the spleen, make it not improbable that Landry's paralysis is a germ disease. In further support of this view is the fact that the paralytic form of rabies closely resembles Landry's paralysis, and that Baumgarten † found the anthrax bacillus in the spinal cord, and Curschmann ‡ found the typhoid bacillus in the spinal cord in cases bearing some resemblance to, but evidently not true cases of, Landry's paralysis; and in two similar cases of so-called Landry's paralysis in which the diagnosis was, to say the least, extremely doubtful, Centanni[*] and Eisenlohr[†] have each found bacteria in the central nervous organs. In neither case were the bacteria cultivated, and in a second case observed by Eisenlohr no bacteria were found. In a number of cases bacteria were looked for, as was done in the case which I report, but were not found. So that the hypothesis that Landry's paralysis is due to bacterial agency, attractive as it seems, is far from being proved, and the pathology of the disease still remains to be discovered.

---

* This lesion is therefore quite different from the lesion found in the case reported in this paper.

† *Deutsch. med. Wochenschrift*, Jan. 15, 1891.

* *Archives bohèmes de médecine*, vol. iv, No. 2, p. 270.

† *Arch. d. Heilk.*, 1876.

‡ *Verhandl. des v. Congress f. innere Medicin*, 1886.

NOTES ON
CASES OF HERNIA WHICH HAVE RELAPSED
AFTER VARIOUS OPERATIONS FOR RADICAL CURE.[‡]

By WILLIAM T. BULL, M. D.,
PROFESSOR OF SURGERY IN THE COLLEGE OF PHYSICIANS AND SURGEONS, SURGEON TO THE NEW YORK HOSPITAL AND TO THE HERNIA DEPARTMENT OF THE HOSPITAL FOR RUPTURED AND CRIPPLED.

During the past three years there have been recorded at the Hospital for Ruptured and Crippled a large number of cases of hernia which have relapsed after various radical operations. With the aid of Dr. S. E. Milliken, assistant surgeon to the hernia department, efforts have been made to get the histories of these patients from hospital or private records, in the hope of furnishing some statistical evidence of the value of different methods. A complete record has been possible only in a small number, owing to various causes. The carelessness of patients as to dates and names, the inability of many to speak English correctly, the incompleteness of hospital histories, and the forgetfulness of operators, have, together with the time necessary for such investigation, made the task so difficult that I am not disposed to seek for further definite information in this direction. But, as I have formed some convictions from the material at hand, crude and straggling as it is, I beg to present them for your consideration.

The total number of relapsed cases is one hundred and nineteen. Seven cases, in which the patients give a history of two or more (in two instances three) operations for the same hernia, have been excluded on account of unsatisfactory data. In seventy-three cases the method of operation has been definitely ascertained, and I have therefore, for the sake of brevity, arranged these in tabular form. (Table A.)

A few facts extracted from this table are worthy of comment: The ages average about the same in all the methods —from thirty-eight to forty-four—showing that the extremes of life have generally been avoided. The duration of treatment, practically wound-healing, in Czerny's method, where the pillars of the external ring and the integuments are carefully sutured, is almost as great as in the open method. This confirms my own experience in operating that the wound is a difficult one in which to obtain absolute primary union, and is an argument in favor of allowing it to granulate. It is to be especially noted that relapses have occurred as late as two years and six months and three years and four months, and that on an average no method shows immunity from recurrence for a longer period than fifteen months. This warrants the statement that future evidence as to the value of different methods must cover an experience of more than three years, and that patients who have been without recurrence for a year have no reason to expect to remain so permanently.

A. *Summary of Cases of Hernia relapsing after Operation for Radical Cure, in which the Nature of the Operation has been ascertained from Hospital or Private Records.*

Method of Operation.	No. of Cases.	Nature.	Ages.			Hospital Treatment.			Relapses.			Truss after Operation.		
			Eldest.	Youngest.	Average.	Longest.	Shortest.	Average.	Longest.	Shortest.	Average.	No truss.	Truss.	Unknown.
Heaton's	9	Inguinal, 6 Double ing., 2 Double fem., 1	58	28	38	wks. 5	wks. 1	wks. 4	yrs. 2½	wks. 1	wks. 24½	..	5	4
Excision of sac, suture of pillars of external ring. Czerny's	22	Ing. red., 10 Ing. irred., 3 Ing. str., 6 Double ing., 1 Fem. irred., 1 Fem. str., 1	70	6	38½	mos. 5	d. 10	7	3½	6	mos. 15	7	12	3
Excision of sac. Socin	4	Ing. irred., 1 Ing. str., 1 Fem. irred., 2	74	25	44	..	..	..	mos. 18	wks. 5	wks. 34	2	..	2
"Open method." McBurney's	24	Ing. red., 10 Ing. irred., 2 Ing. str., 3 Ing. double, 7 Fem., 2	72	21	42	3½	wks. 5	8	yrs. 2½	mos. 1	mos. 8	21	2	1
Macewen's	4	Double ing., 2 Ing. red., 1 Ing. str., 1	49	32	39½	..	..	..	mos. 7	wks. 6	wks. 15	1	1	2
Bryant's	1	Ing. strang.	40	..	..	4½	..	..	5	..	..	1	..	..
Schwalbe's	1	Double ing.	27	..	..	?	..	..	5	..	..	1	..	..
Wood's	1	Ing. red.	26	..	..	6	..	..	2	..	..	1	..	..
Open wound, suture of omentum in neck	2	Ing. strang.	68	67	..	d. 10	mos. 2	..	2½	mos. 2	..	2	..	..
Total	73													

---

[*] Ziegler's *Beiträge zur path. Anatomie*, etc., Bd. viii, Hft. 3.

[†] *Deutsch. med. Wochenschrift*, No. 38, Sept. 18, 1890.

[‡] Read before the New York Surgical Society, March 25, 1891.

The uncertainty of the event of recurrence may be further illustrated by reference to Tables B and C, in which I have given the cases more in detail, in the hope that they may furnish a clew to operators desirous of completing their records.

B. *Summary of Cases of Reducible Hernia relapsing after Operations presumably for Radical Cure; Method Unknown.*

Nature.	Age.	Hospital treatment.	Relapse.	No truss.	Truss.	Hospital.
1. Inguinal...	50	?	?	..	1	Post-grad. Hosp., Jan., 1886.
2. " ...	70	?	4½ mos.	..	..	St. Mary's, B'klyn, Mar., 1889.
3. " ...	32	7 wks.	9 mos.	..	1	Gouverneur Hosp., Mar., 1890.
4. " ...	66	2 mos.	2 mos.	..	1	Private, 1872.
5. " ...	45	3 wks.	?	..	1	St. Peter's, Brooklyn, 1886.
6. " ...	26	4 "	1 yr.	1	..	St. Luke's, 1890.
7. Ing. double.	45	9 "	6 mos.	1	..	Charity Hosp., Jan., 1890.
8. " "	46	2½ mos.	5 wks.	..	1	St. Luke's Hosp., Jan., 1886.

Number, 8; average age, 48; average treatment, 7 weeks; average relapse, 24 weeks; no truss, 2; truss, 5; truss unknown, 1.

C. *Summary of Cases of Irreducible or Strangulated Hernia which have relapsed after Operation; Method of Operation Unknown.*

Nature.	Age.	Hospital treatment.	Relapse.	No truss.	Truss.	Hospital.
1. Femoral..	40	6 wks.	6 wks.	..	1	Private, Oct., 1888.
2. Inguinal..	64	?	?	1	..	Bellevue, June, 1887.
3. " ..	45	6 wks.	2½ mos.	1	..	St. Catharine's, B'klyn, Oct., '88.
4. " ..	48	3 mos.	?	..	..	Bellevue, 1889.
5. " ..	35	2 wks.	?	..	1	St. Francis's, Oct., 1888.
6. Ing. irred.	20	4 "	4 wks.	..	1	Prague, Bohemia, 1886.
7. Umbilical.	70	2 "	?	1	..	Association Hosp., Feb., 1889.
8. Inguinal..	27	?	?	..	..	German Hosp., July, 1889.
9. " ..	35	?	2½ yrs.	1	..	Berlin, April, 1887.
10. " ..	49	10 d.	?	..	1	Roosevelt, 1882.
11. " ..	28	16 wks.	1 yr.	1	..	99th St. Hosp., June, 1889.
12. " ..	?	3 "	5 "	..	1	New York Hosp., April, 1885.
13. " ..	40	6 "	8 "	..	1	St. Francis's Hosp., 1878.
14. " ..	25	4 "	?	1	..	Bellevue, June, 1888.
15. " ..	66	3 "	1 wk.	1	..	Bellevue, Jan., 1888.
16. Ing. irred.	28	4 "	6 mos.	1	..	Presbyterian Hosp., April, '90.
17. " " .	?	4 "	3 "	1	..	Manhattan Hosp., June, 1890.
18. " " .	55	4 "	7 "	1	..	Harlem Hosp., May, 1891.
19. Inguinal..	34	5 "	2 "	1	..	Gouverneur, Jan., 1891.
20. " ..	6	6 "	6 wks.	..	1	Ireland, 1886.

Number, 20; average age, 40; average treatment, 5 weeks; average relapse, 18½ months; no truss, 10; truss, 7; truss unknown, 3.

Table B gives eight cases, presumably operated on for radical cure, since the herniæ were reducible and the operations have been performed within the past five years. Relapse ensued after an average period of twenty-four weeks. Table C gives twenty cases of irreducible strangulated hernia subjected to operation within eight years, without any data as to method. A radical cure may or may not have been attempted. A relapse occurred on an average at eighteen months.

Although these cases must be a small proportion of the number operated on in the past few years in this vicinity, they certainly demonstrate that many methods are defective and likely to prove disappointing, if observed for a sufficient length of time. Now that ten years have elapsed since the modern radical operations have been in vogue, we ought to hear of, or have presented to us, patients who have been more than five years (at the least) without relapse. We could naturally expect to see such cases occasionally at a special hospital. But there are none such. At present there are recorded in our books forty-six patients who have been subjected to radical operations and who present no sign of relapse and who have been furnished with trusses. Of these, only five have been under observation for over three years, eight for less than two years, and thirty-two for less than one year. Various methods are represented. In a series of one hundred and thirty-six cases of radical-cure operation that I reported to the American Surgical Association last May, there were only four cases which had been over four years without recurrence.

There have come under my notice, however, some striking cases of immunity from relapse after operation. These are included in the following table. They represent cases of irreducible or strangulated hernia in which no attempt at radical cure has been made. This has been assumed from the date of the operation (prior to the introduction of modern methods), or is known from the statement of the operator. There are eighteen of these cases, the patients averaging forty-five years of age, or a little older than the cases in the other table. The period at which the relapse occurred varies from one month to twenty-three years, and is, on the average, five years. It is to be noted that fifteen of these patients wore trusses from the time of the operation.

D. *Summary of Cases of Irreducible or Strangulated Hernia relapsing after Operation. In these no radical cure has been attempted. This has been ascertained in some instances from the statement of the surgeon; in others it is assumed from the date of the operation.*

Nature.	Age.	Hospital treatment.	Relapse.	No truss.	Truss.	Hospital.
1. Inguinal..	28	?	9 yrs.	..	1	Dublin, 1880.
2. " ..	42	?	3 "	..	1	Private, 1875.
3. " ..	45	?	5 "	..	1	? 1865.
4. " ..	32	?	6 "	..	..	London, 1883.
5. " ..	57	8 d.	4 "	..	..	Dr. W. R. Fisher, Hoboken.
6. " ..	54	2 mos.	5½ "	..	1	Presbyterian Hosp., 1884.
7. " ..	46	4 wks.	1 "	..	1	Private, 1864.
8. " ..	28	2 mos.	9 "	..	1	Dublin, 1880.
9. " ..	36	2 mos.	2 mos.	1	..	Roosevelt, 1878.
10. " ..	11	?	2 yrs.	..	1	Dr. Dennis, Jan., 1880.
11. " ..	76	?	?	..	1	Germany, 1839.
12. Femoral..	56	6 wks.	10 mos.	..	1	Private, 1878.
13. Inguinal..	37	4 "	?	..	1	Jersey City, Aug., 1885.
14. " ..	64	2 "	23 yrs.	..	1	Lyons, France, Oct., 1838.
15. " ..	60	2 "	1 mo.	..	1	Dr. Milliken, Aug., 1890.
16. " ..	30	2 mos.	2 yrs.	..	1	Dublin, May, 1881.
17. Femoral..	40	4 wks.	1 yr.	..	1	Dr. Shrady, Oct., 1884.
18. " ..	60	1 mo.	?	..	1	Private, 1860.

Number, 18; average age, 45; average treatment, 5 weeks; average relapse, 5 years; no truss, 1; truss, 15; truss unknown, 2.

I can not offer any statistical data bearing on the question of the effect of a truss in preventing relapse or prolonging "cure." The figures are quite contradictory. In several cases—half a dozen, roughly speaking—it is recorded that the hernia was out of sight till the truss was discontinued or broken. I am sure that it is safe to state, in general, that the largest or most voluminous protrusions were met with in patients who had worn no truss, and, furthermore, that I have never seen any evidence of damage to the repaired structures by the pressure of a truss. I think the majority of surgeons approve of its use to prevent relapse, and I have always had my patients fitted immediately after the wound was healed, and directed that the pressure made by the spring should be very slight—do nothing more than support the parts. A well-fitting truss applied to a hernia soon after its appearance, and kept in order, can rarely be said to do harm. How can it do harm to the parts when there is no protrusion?

I believe that much that has been said against it can be laid to the score of the operation and the condition that the parts are left in by it, rather than to the truss. If suppuration is prolonged in the wound and it is compelled to heal by granulation, a cicatrix of less vitality and less elasticity than the normal skin and subcutaneous fat is left. This structure is not tolerant of pressure. Excoriations are easily created on the surface, and patients are, every now and then, obliged to lay aside their truss to permit the abraded surface to heal. A prompt primary union, which restores the parts as nearly as possible to their normal condition, will not be unfavorably affected by the truss. On the other hand, in a wound with much cicatricial tissue, there is a natural tendency to soften and yield, and this tendency will be hastened by the pressure of a truss without and the viscera within. If this theoretical statement is accepted, it will be agreed that an essential feature of every method should be the prompt healing of the wound.

There is something to be learned from the inspection of the site of the hernial orifice in the relapsed cases and from its character. Sometimes there is bulging of the whole line of the inguinal canal and subsequent protrusion; in others there is first a yielding and protrusion at the site of the external or internal ring. When the relapsed hernia is well developed, the canal seems to preserve some degree of its original obliquity, except in cases operated on by the open method. Here the orifice is not unlike that of a ventral hernia—an opening in the wall without any canal, so that the hernia protrudes directly forward. This condition makes greater difficulty in the adaptation of a truss, which is further enhanced by the thinness of the yielding cicatrix. In several instances I have seen the peristaltic movements of the intestine through such a hernial covering, and in two cases an adhesion of the omentum to this cicatrix made all efforts of coughing or straining painful, while the truss pressure was almost intolerable. It must be stated that, at different periods after operation—from three to six months—the cicatrix of the open operation is to be recognized by its depressed situation and firm, contracted, and dense character. At a later period it begins to yield in places, or all along its line, and ultimately presents the features mentioned above.

Frequent contact with these patients gives rise to the belief that the majority, while not cured, are certainly improved. This goes without saying in the cases of irreducible or strangulated herniæ. Even with relapsed hernia patients find much satisfaction in the fact that the protrusions are not so large as before operation, or they experience increased comfort and security in the wearing of the truss. Whenever, in reply to the question, "Are you better or worse since the operation?" patients have expressed themselves as "worse," it has usually been found that the truss had not been worn at all, or that the cicatrices of the wounds presented signs of their having healed by granulation, with subsequent yielding of the cicatrices. These experiences may be exceptional, I admit, and, if so, I hope to have them contradicted or offset by the observations of those who have had opportunities of watching the result of open operations. There have been numerous advocates of this method, in this country particularly, and the average results may be better than those which I have seen.

In conclusion, let me repeat the statement with which I began—that these straggling notes do not afford any valuable evidence as to the comparative reliability of different methods, but only emphasize lack of promise to effect a cure. In view of the trifling mortality now attached to these operations, in view of their recognized advantage in improving the conditions of irreducible, uncontrollable, or strangulated hernia, it is wise to continue to strive for better methods. Surgeons who have led the way in the past, devising and perfecting the still unsatisfactory methods, may be expected to make further improvements and advances. There can not be too many of these efforts, nor can they be too varied so long as life is not endangered. But I hold, after the knowledge of these failures and in view of the well-established fact that after the old operations for hernia recurrence has been often long delayed, that it is wise to drop the term "cure" and to estimate the value of given procedures by the relative proportion of relapses. That plan will be judged the best which shows the smallest number of relapses in course of the longest period of observation. And such period ought to be at least five years. Furthermore, I believe that all procedures should be so devised as to insure prompt healing of the wound, and that the support of a truss should be insisted on from the time the patient leaves his bed.

35 West Thirty-fifth Street.

SUPRAPUBIC CYSTOTOMY FOR CALCULUS;

REMOVAL OF THE HYPERTROPHIED MEDIAN PROSTATIC LOBE; RESTORATION OF THE BLADDER FUNCTIONS.*

By ROBERT F. WEIR, M. D.,
SURGEON TO THE NEW YORK HOSPITAL, ETC.

The patient presented is a man, fifty-seven years old, who for seven years past has only been able to evacuate his bladder by the use of a soft-rubber catheter. Eleven months prior to his consulting me the tip end of one of his catheters tore off and remained in the bladder, and this accident was soon followed by the customary signs of stone. Suprapubic cystotomy was performed on April 7, 1890. After the extraction of the stone, phosphatic and over an inch in length, in its center was found the missing end of the catheter as its nucleus, which is well seen in the specimen exhibited. Then the projecting median portion of the enlarged prostate was seized by a catch forceps and removed by section with curved scissors. It was somewhat globular, nearly three quarters of an inch in diameter, and was attached by a base one third of an inch across. Smart oozing followed its removal, which was partly relieved by taking out the rectal distending bag, often a cause of the continued bleeding, but it was only completely controlled after the finger had felt the internal urethral orifice to be free from any further protuberances, by packing the bladder firmly with iodoform gauze in such a way that the pressure of the ordinary dressings should be carried backward and downward to the prostate through the mass purposely left in the bladder. This expedient of a direct compress in vesical hæmorrhage after suprapubic cystotomy with removal of a neoplasm I have resorted to in three instances with a satisfactory result. In twenty-four hours the gauze is usually withdrawn, having not only checked the hæmorrhage, but kept the bladder comparatively aseptic and free from odor.

---

* Remarks made on presenting the patient before the Section in General Surgery of the New York Academy of Medicine, January 12, 1891.

The wound in the bladder was partially stitched anteriorly, leaving an opening for the end of the gauze packing and for Trendelenburg's T-shaped rubber drainage-tube. This latter was carried to a receptacle partially filled with carbolic-acid solution and the patient kept on one side or the other for the first forty-eight hours. The tube was removed on the third day. The wound closed in a month, the patient then holding six ounces of urine which he voided *per urethram.* He now urinates without the aid of a catheter and at intervals of three to four hours. There is only about two to four drachms of residual urine to be found.

In my judgment, the removal of obstructions of prostatic origin will afford the greatest success in those in whom the interference with urination has lasted but a comparatively few years—in other words, where the secondary changes in the kidney have not advanced to a very serious extent. This factor is an important one concerning the reserve force of the patient, since to the suprapubic section one may be forced to add a perineal incision in order to thoroughly accomplish the removal of the obstruction, particularly at the lower margins of the vesical orifice and possibly in the prostatic urethra itself. The scissors in the removal of the prostatic outgrowths is an unsatisfactory instrument, and I propose to use an amygdalotome in the next case of this kind. I have had no experience with Dittel's plan of enucleation of the laterally enlarged prostatic lobes.

The Effects of Orexin on Assimilation.—"The effects of hydrochlorate of orexin on the assimilation of nitrogen and fat and on the nitrogenous metabolism in healthy as well as in diseased subjects has recently been studied by Dr. E. T. Kotliar, chief of Professor Manasseïn's therapeutic clinic in St Petersburg, the pathological cases comprising three of chronic gastric catarrh and one of carcinoma of the stomach. The results obtained are thus summarized: Orexin given in quantities of from five to twelve grains daily for four or five days increases the assimilation of nitrogen both in healthy and in diseased subjects. It increases the assimilation of fat in diseased subjects. The nitrogenous assimilation is lessened to a marked degree in healthy persons, but much less so and less constantly in diseased subjects. In both classes of individuals the appetite is improved, the sensation of hunger not, however, being always increased."—*Lancet.*

A CLINICAL REPORT OF OPERATIVE SURGERY IN THE SERVICE OF DR. WILLIAM T. BULL,

AT THE NEW YORK HOSPITAL,

During October and November, 1889, and from February to June, 1890.

By WILLIAM B. COLEY, M.D.,

LATE HOUSE SURGEON.

(*Continued from page 514.*)

OPERATIONS UPON THE THORAX.

(*a*) *Tumors of the Breast; an Analysis of Twenty Cases.*

Although the accompanying table contains a brief history of each case, the most important points may be summarized as follows:

I. *Classification.*—This is based upon the report of the pathologist, Dr. Ferguson, by whom a careful microscopical examination was made in every case.

Of the twenty cases analyzed, there were thirteen of carcinoma, three of adenoma, one of intracanalicular fibroma, two of sarcoma (one myxosarcoma), and one of tubercular lymphadenoma.

II. *Age.*—In the cases of carcinoma, all the patients were beyond the age of thirty-nine years, and all except two had borne children.

The patients with adenoma were forty-six, twenty-eight, forty-six, and forty years of age respectively. Those with sarcoma were forty-five and seventy-one years of age.

The myxosarcoma occurred in the former, the patient being a woman who had never borne children. There was a history of trauma fifteen years previously, followed by the appearance of a small tumor. The tumor did not increase in size, and remained free from pain until five months before operation, when, following a second injury, it began to grow very rapidly, and was accompanied by pain. At the time of operation it had attained the size of a large cocoanut. It was markedly protuberant, and, though having no actual pedicle, its base of attachment was comparatively small and did not extend beyond the limits of the normal breast. The skin over it was thin, tense, and glossy, and the subcutaneous veins were greatly dilated, giving it in portions a bluish discoloration. While for the most part hard, the consistence varied, and in several places it was soft and semi fluctuating. The growth was not adherent to the ribs, and its limits were very sharply defined. The lymphatic glands in the axilla were not enlarged. The operation was performed on November 9, 1889. The tumor, breast, and a portion of the pectoralis major were removed. The wound healed by primary union, and the patient left the hospital at the end of eleven days. She was seen a year after the operation, and at that time was free from recurrence.

The remaining case of sarcoma occurred in a man seventy years of age (colored). It had existed four years, and began as a small painless nodule, just above and to the outer side of the left nipple. No history of injury could be ascertained. The tumor gradually increased in size, and two weeks previous to admission (May, 1890) it began to ulcerate and became painful. At the time of operation the region of the left breast was occupied by an irregularly spheroid mass, of about the size of an orange (ten inches in circumference). The skin over it was adherent and ulcerated in places. In consistence it was hard and nodular, and there were two or three tubercles of the size of an olive projecting from the main growth. There was no apparent involvement of the axillary glands. The operation, performed by Dr. Bull, May 3, 1890, consisted in an excision of the tumor and as much of the infiltrated skin as was possible without leaving a large open wound. No drainage was used, a dry dressing was applied, and the wound healed quickly by primary union. The axilla was not explored at the time of the operation, there being no apparent occasion for it. The patient was seen sixteen months after the operation and was in good health, and there was no evidence of local or general recurrence.

In the cases of carcinoma no history of trauma could be obtained in any instance, and in only one case was it possible to attribute the neoplasm to heredity. The same holds true of the cases of adenoma.

III. *Period of applying for Treatment.*—In the cases of carcinoma, one patient applied for treatment five weeks after the discovery of the tumor. The growth had attained the size of a goose egg and the axilla had already become invaded. This patient was fifty-three years of age and had borne children.

Another patient applied for treatment three months and a half after the growth had been first noticed. The tumor was of the size of an orange and the lymphatic glands in the axilla were enlarged.

The earliest period in the cases of adenoma was two months, while the average time in all cases was about one year after the discovery of the tumor.

The latest period was eighteen years.

This was a case of carcinoma, but the tumor had evidently been benign in character and stationary in its growth, and only during the last year had there been any marked increase in size.

The same is true of the case of myxosarcoma, where a tumor was noticed fifteen years before, but did not begin to grow or take on any signs of malignancy until five months before the operation. These two cases, in which a benign tumor had existed for a long period of years, and subsequently developed malignant features of the more marked type, illustrate the importance of early operation even in innocent growths.

Invasion of the Axilla.—In thirteen of the twenty cases the axillary glands were involved, and the microscope showed the enlargement to be due to carcinomatous infiltration. The axilla was free from disease in all the cases of adenoma, as well as in the two cases of sarcoma. The enlarged glands were detected by examination previous to the operation except in one case, where they were revealed by careful exploration of the axilla.

Diagnosis.—In the great majority of the cases the diagnosis was reasonably sure from the clinical history and the physical examination.

In four doubtful cases an exploratory incision was made through the tumor itself, and the nature and extent of the operation were determined by such exploration. In all of the four cases the diagnosis was subsequently confirmed by the microscopical examination. In one case the tumor had been pronounced carcinoma by several well-known surgeons. The exploratory incision showed it to be probably a cystic adenoma, and the tumor alone was removed without sacrificing the breast itself.

General Plan of Operation.—(1) Removal of the tumor alone. (2) Removal of the breast, including the tumor. (3) Removal of the breast and axillary glands.

The tumor alone was excised in the cases of adenoma, the breast and tumor were removed in the cases of sarcoma, while in the carcinomatous cases the breast and axillary contents, with the tissues between them, were removed.

The operation was followed by recovery in every instance.

In the recent collection of Butlin (*vide Operative Surgery of Malignant Disease*, p. 387) an analysis of 311 cases shows a mortality of 9 per cent. in 141 cases where the breast alone was removed, and a mortality of 23 per cent. in 170 cases where the breast and axillary glands were removed. The usual elliptical incision was made, including breast and tumor, the long axis of the incision being in the direction of the fibers of the pectoral muscle. In those cases where the axilla was explored the incision was simply prolonged, and the skin covering the axillary vessels, the breast, and the enlarged glands were then removed entire.

The axillary vein was usually first exposed in order to lessen the danger of injury, and search made for glands between the pectoral muscles. In all instances the fascia of the pectoralis major, and occasionally parts of that muscle, were included in the portion removed.

General Wound Dressing.—All hæmorrhage having been carefully controlled, the wound was irrigated with a 1-to-5,000 solution of bichloride of mercury, and the skin wound closed with catgut sutures of medium size. Two drainage-tubes were generally used, one of glass in the axilla and one of rubber in the most dependent portion of the breast wound. The external wound in the benign cases was usually closed with silk sutures (interrupted). In a few cases where it had been necessary to remove a large amount of skin, silver wire was used instead of silk.

Drainage.—In eleven cases glass and rubber drains were used; in two no drainage at all was employed. Both wounds healed by primary union—one in twelve and the other in nine days. In both cases the entire breast was removed. In the remaining cases rubber drainage-tubes were used.

Dressings.—The dressings employed in all except three of the cases were of gauze wrung out in a 1-to-5,000 solution of bichloride of mercury. Firm pressure was secured by means of rubber plaster, and either a binder or Canton-flannel bandage applied externally.

In three cases no antiseptic was used, the dressing being simply dry sterilized gauze and absorbent cotton, applied in the usual way. These wounds all healed by perfect primary union.

The drainage-tubes were in most cases taken out at the end of forty-eight hours.

Perfect primary union resulted in seventeen of the twenty cases, while in three cases the union, though mainly by first intention, was somewhat delayed by tube sinuses, which were slow in healing.

The average time spent in the hospital was thirteen days and eight tenths.

Below is given in full the report of the pathologist in Cases XII and XIX.

Case XII. *Intracanalicular Fibroma.*—The material is a small solid tumor with a cyst in its interior as large as a small pea. The tumor is rounded in shape and measures 2 ctm. in diameter. There is apparently no capsule.

Microscopically, it is composed of fibrous tissue with an extension of the fibrous tissue into the dilated ducts and acini of the breast. These extensions of fibrous tissue are covered by cylindrical epithelium, the same as the breast gland ducts. At the periphery of the tumor there are normal breast acini and ducts, and many of these show also the effects of pressure from the developing tumor.

Case XIX. *Tuberculosis of Lymphatic Glands.*—The material consists of a number of glands forming a mass measuring 12 × 8 × 5 ctm. and weighing one hundred and twenty grains.

On section it shows numerous areas of cheesy degeneration. On microscopical examination, the sections show many aggregations of small round cells with cheesy centers. There are extensive areas of necrobiosis with giant cells in places at their periphery. There are tubercles of all sizes in the involved glands.

(*b*) *Miscellaneous Cases.*

Case I. *Sarcoma of the Scapula; Excision of the Tumor; Death from Septicæmia.*—The patient was a woman, sixty-three years of age. There had been no malignant disease in other members of her family, and she had been well until ten months previous to admission. At that time, without apparent cause, she began to have slight pain and discomfort in the left axillary region, and two months later a tumor appeared over the outer border of the scapula. This grew rapidly, but never became tender or painful. At the time of operation, June, 1890, the tumor was of the size of a cocoanut, occupying the posterior axillary region and extending over the larger portion of the left scapula. The axillary glands were enlarged. The operation consisted in a six-inch incision over the tumor and the excision of the tumor and enlarged glands. The tumor was very closely

TUMORS OF THE BREAST.

Age and condition.	Duration of symptoms.	Position and size of tumor.	Heredity.	History of injury.	Operation.	Axilla invaded.	Drainage.	Wound healing.	Days in hospital.	Pathologist's report.
1. 46 yrs., s.	Tumor, 5 mos.; no pain.	L., size of an egg.	None.	None.	Ether; excision of tumor only.	No.	Horse-hair.	Prim. union.	5	Cystic adenoma.
2. 49 yrs., s.	Tumor, 6 mos.; little pain.	R., egg.	"	"	Ether; excision of breast and axillary glands.	Yes.	Glass and rubber.	"	12	Carcinoma.
3. 54 yrs., m. 15 children.	Tumor, 7 mos.; considerable pain.	R.	"	"	Ether; excision of breast and axillary glands.	"	Glass and rubber.	"	14	"
4. 28 yrs., s.	Tumor, 2 mos.; no pain.	L., English walnut.	"	"	Excision of tumor alone.	No.	Rubber.	"	7	Cystic adenoma.
5. 45 yrs., s.	Very small lump 15 yrs. ago; no increase in size until 5 mos.	L., cocoanut.	"	Injury, 11 yrs. ago; again, 5 mos. ago.	Excision of tumor and entire gland.	"	Rubber and glass.	"	11	Myxosarcoma.
6. 53 yrs., m.	Tumor, 5 wks.; no pain.	L., goose egg.	"	None.	Excision of breast and contents of axilla.	Yes.	Rubber and glass.	"	13	Carcinoma.
7. 49 yrs., m.	Tumor, 13 mos.; pain.	L., size of fist.	"	"	Excision of breast and axillary glands.	"	Rubber and glass.	Delayed union.	14	"
8. 49 yrs., m.	Previous operat'n 2 yrs. before, excision of breast; recurred in cicatrix 4 mos. ago.	R., old cicatrix size of two fingers.	"	"	Excision of cicatrix and as much as possible of new growth.	"	Rubber and glass.	Prim. union.	18	Recurrent carcinoma.
9. 46 yrs., m.	Tumor, 3 yrs.; no pain.	R., size of an orange.	"	"	Excision of breast and axillary glands (glands not enlarged).	No.	Rubber.	"	9	Cystic adenoma.
10. 45 yrs., m.	Tumor, 1 yr.	R., hen's egg.	"	"	Excision of breast and tumor with axillary glands.	Yes.	Rubber.	Delayed union.	18	Carcinoma.
11. 55 yrs., m.	Tumor, $3\frac{1}{2}$ mos.; no pain.	L., size of an orange.	"	"	Excision of breast and axillary glands.	"	Glass and rubber.	Prim. union.	17	"
12. 40 yrs., m.	Tumor, 8 mos.; no pain.	L., size of an English walnut.	"	"	Exploratory incis., found to be cystic; only tumor removed.	No.	Rubber.	"	6	Intracanalicular fibroma.
13. 40 yrs., s.	Tumor, 8 mos.; pain 3 mos.	R., size of hen's egg.	"	"	Excision of breast and axillary glands.	Yes.	Rubber and glass.	"	16	Carcinoma.
14. 48 yrs., m.	Tumor, 2 yrs.; severe pain.	L., size of an orange.	"	"	Excision of breast and axillary glands; wound not entirely closed.	"	Rubber and glass.	Delayed union.	26	"
15. 71 yrs., m.	Tumor, 5 mos.	L., goose egg.	"	"	Excision of breast and axillary glands.	"	Rubber and glass.	Prim. union; tube sinus slow in closing.	37	"
16. 39 yrs., m.	Tumor, 14 mos.; discharge from nipple 6 wks.	R., hen's egg.	"	"	Excision of breast and axillary glands; dry, baked dressing.	"	None.	Prim. union.	9	"
17. 46 yrs., m.	Tumor, 2 yrs.; pain 2 mos.	L., no distinct tumor; area of induration slightly retracted.	Present.	"	Exploratory incis. showed undoubtedly carcinoma; excision of breast and axillary glands.	"	Rubber and glass.	"	13	"
18. 75 yrs., m.	Small lump, 18 yrs.; increase in size past year; pain.	R., large egg.	None.	"	Excision of breast and axillary glands.	"	None.	"	12	"
19. 28 yrs., m.	Tumor, $1\frac{1}{2}$ yrs.; two supernumerary breasts.	L., size of hen's egg.	"	"	Excision of tumor and axillary glands; breast not removed.	"	Glass.	"	10	Tubercular lymphoma.
20. 70 yrs., m.	Tumor, 4 yrs.; pain only recent.	L., fist.	"	"	Breast and tumor.	No.	None.	"	12	Sarcoma.

adherent to the subscapular fossa of the scapula, and had evidently originated in the periosteum. The wound was carefully irrigated with a 1-to-10,000 solution of bichloride of mercury, and drainage-tubes were used. The second day the temperature rose to 104° F., associated with considerable discharge and local redness about the wound. The symptoms of septic infection continued, and death followed on the ninth day.

There was no autopsy. The pathologist's report showed the growth to be a spindle-celled sarcoma.

Case II. *Osteoma of Ribs; Resection of Ribs and Pleura; Recovery.*—The patient was a woman, twenty-four years of age. Four years previous to the operation a swelling appeared below and to the outer side of the left nipple. This increased in size steadily, and was never painful. She entered the hospital in June, 1890, at which time she presented a tumor of the size of a cocoanut just below and external to the left nipple. The tumor was hard, nodular, and firmly attached to the chest wall. The skin was not adherent. Numerous small tumors, apparently similar in character, were found at the epiphyseal junctions of nearly all the long bones. Her general health was very good. The operation showed the tumor to be of bony consistence and so firmly attached to the third, fourth, and fifth ribs that its removal required the resection of about three inches of these ribs. The ribs in the region of the tumor were considerably softened. An opening was made in the pleura, and closed with catgut sutures. The external wound was freely drained.

Subsequent Progress.—She had a sharp attack of pleurisy on the day following the operation, the respirations rising to sixty a minute. The symptoms quickly subsided, and rapid recovery, with primary union, followed.

The pathologist's report showed the tumor to be an *osteoma*, of the consistence of cancellous bone structure, and covered with cartilage. The tumor weighed eleven ounces and a half.

Case III. *Deep Sinus of Chest following Operation for Empyema; Resection of Five Ribs; Recovery.*—The patient, a man, twenty-nine years of age, had been operated upon for empyema six months before. A sinus, with considerable discharge, persisted, and his general condition was much impaired.

In October, 1889, the sinus was freely laid open the entire length, and portions of the fourth, fifth, sixth, seventh, and eighth ribs, varying in length from one to two inches, were removed. The sinus itself was thoroughly scraped and the wound closed. Primary union followed, and his general condition rapidly improved.

Case IV. *Foreign Body in the Bronchus; Operation; Removal; Recovery.*—The patient, a child two years old, entered the hospital in November, 1889. On admission, her temperature was 104° F., respiration 68, and pulse 150.

Five days before, she had swallowed a black-headed pin, and almost immediately was seized with a severe coughing fit. Frequent paroxysms of coughing had followed and had continued up to the time of her entering hospital.

Physical examination showed vesicular breathing on the right side much diminished, and crepitant râles over right lung.

Chloroform was given and tracheotomy below the isthmus of the thyreoid performed. The point of the pin was quickly discovered, and the pin removed with forceps. It measured two inches and a quarter in length, and the head was of the size of a pea. It had lodged in the right bronchus. The wound quickly healed, and rapid recovery followed.

The remaining cases are not of sufficient importance to be given in detail. Two operations were for axillary abscess, two for necrosis of ribs, and one for abscess of the chest wall.

(*To be continued.*)

A CASE OF INJURY TO THE LEFT SUPRA-ORBITAL NERVE.

By JOHN DUNN, M. D.,
RICHMOND, VA.

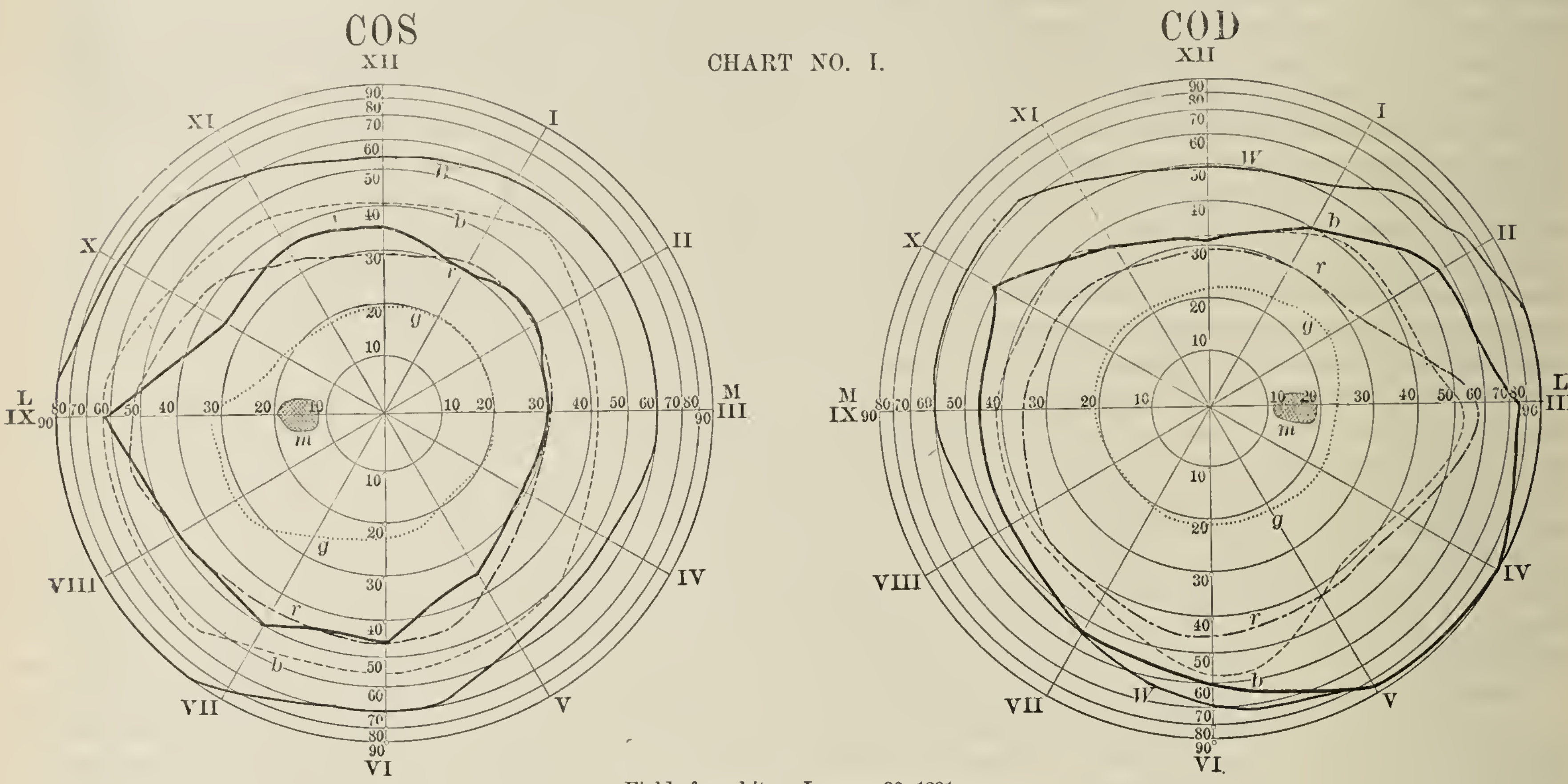
In the *New York Medical Journal* for August 9, 1890, I reported a case of reflex amblyopia resulting from injury to the right supra-orbital nerve and cured by section of this nerve. The amblyopia and the other reflex symptoms were the result of an injury which had lasted for three years and a half. In the following case the symptoms, though occurring in the same person, are of less than four months' duration. A synopsis of the symptoms of the first case may serve as an introduction to a more detailed account of those resulting from the second blow:

In the winter of 1886, Mr. C., then aged sixteen, was struck in the *right* eye with a snow-ball. From this time on there was continuous trouble with both eyes. In April, 1890, the following symptoms presented themselves: Amblyopia. V. O. D. = $\frac{9}{200}$, O. S. = $\frac{18}{100}$. Amplitude of accommodation for Jaeger 2 was 2 ctm. Contraction of both fields of vision. Clonic spasm of the accommodation. Amblyopia not due to this, however, as the use of atropine and correcting glasses, the patient being $\frac{3}{4}$ D. hypermetropic, did not improve vision. Clonic spasm of the lower palpebral fibers of the orbicularis. Eye extremely sensitive to light and painful in cold weather. Presence of a cloud before both eyes. Hyperæmic condition of the conjunctiva. No changes in the fundus. A subcutaneous section of the right supra-orbital nerve was made April 12th. On May 8th every symptom, direct and reflex, of the nerve trouble had disappeared. V. O. D. and O. S. = $\frac{18}{15}$. Fields normal. Mr. C. then joined a corps of railroad engineers and was at work in southwest Virginia until January, 1891, when he came to my office with the complaint that his eyes, especially his left eye, were beginning to give him trouble. History as follows: From May 8th until late in September he had had no trouble with his eyes. Having had some misunderstanding with the mountaineers, his corps was "bushwhacked," and Mr. C. was struck with a stone above his *left* eye. The blow had been severe enough to break the skin. This blow was received late in September, and from this time on Mr. C. had suffered with more or less pain in his left eye, especially annoying when he was in a cold wind. In December his ability to do continuously fine work became much impaired. On January 19th a cloud appeared before his eyes, and was thick enough to prevent his reading with distinctness.

Examination.—Fundus normal. No visible disturbance of the media. Conjunctiva hyperæmic. Especially to be noted are two or three small blood-vessels which run in the conjunctiva from near the corneal margin to the outer canthus of the eye—bilateral. At no time has there been any diplopia. Just above the eyebrow and about 1 or 2 mm. external to supra-orbital nerve, as felt through the skin, is a scar about 5 mm. long and 1 mm. wide. The passage of a finger along the left eyebrow causes a forcible contraction of the lower lid as soon as the skin over the supra-orbital nerve is reached. The spasm seems to affect only the lower palpebral fibers of the orbicularis.

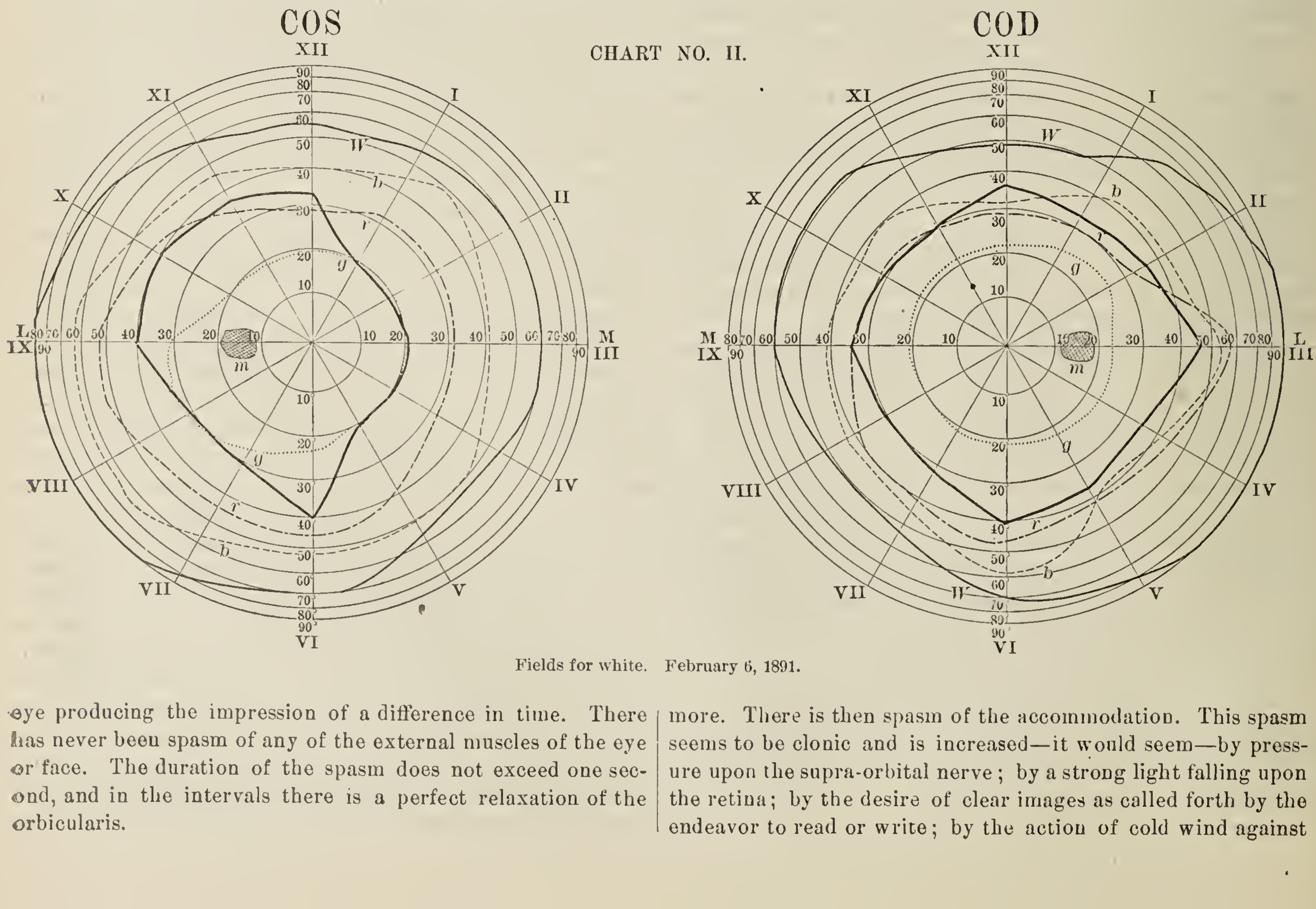
The spasm raises the lower lid, though never sufficiently to bring its free edge more than half way from the corneal margin to the pupil; thus the spasm has never interfered with the vision. This spasmodic contraction of the lid is produced every time the left supra-orbital nerve is pressed upon; increases much in frequency whenever patient is walking in a cold wind; is produced whenever patient attempts to read fine print for more than a few seconds at a time; is produced whenever a strong light is thrown into the eye. On warm days this contraction occurs comparatively seldom. The orbicularis spasm affects both eyes, though it is much more marked in its force in the left. When the left supra-orbital nerve is pressed upon, though there results a clonic spasm of the lower palpebral fibers of the orbicularis of both eyes, there seems to be a slight difference in time in the appearance of the spasm in the two eyes, that of the right eye occurring later. The difference in time is, however, if it exist, very slight. The contractions may be simultaneous, the greater force of the contraction in the left eye producing the impression of a difference in time. There has never been spasm of any of the external muscles of the eye or face. The duration of the spasm does not exceed one second, and in the intervals there is a perfect relaxation of the orbicularis.

CHART NO. I.



Fields for white. January 30, 1891.

CHART NO. II.



Fields for white. February 6, 1891.

V. O. D. = $\frac{18}{20}$, O. S. = $\frac{18}{40}$. Neither convex nor concave glasses improve. The patient has + $\frac{3}{4}$ D. of hypermetropia, as I know from previous measurements of the eyes. Patient can not read Jaeger 1 at all. Amplitude of accommodation for Jaeger 2 is O. D., 10 to 22 ctm.; O. S., 10 to 15 ctm.; that is, 12 ctm. for O. D. and only 5 ctm. for O. S. To read with least discomfort, patient has to bring the type to 10 ctm., at which distance the pupils are almost "pin point" and the convergence of the eyes strongly marked. The endeavor to read makes the eyes pain and smart, and the patient soon says he can read no more. There is then spasm of the accommodation. This spasm seems to be clonic and is increased—it would seem—by pressure upon the supra-orbital nerve; by a strong light falling upon the retina; by the desire of clear images as called forth by the endeavor to read or write; by the action of cold wind against the face. When no special demand is made upon the eye the spasm remits. The pupils are of equal size, and react to light and distance. From the greater amplitude of accommodation in O. D., we have the right to infer that the ciliary spasm is less in degree in this eye.

The changes in the retinal functions are shown in a diminution of the visual acuity; in a diminution in the fields of vision; in the fact that there is more or less color-blindness. That these changes are not due to the presence of the spasm of accommodation, but to the direct reflex action upon the retina, was shown a few days later, when, after complete dilatation of the pupil and paralysis of the accommodation, they existed to as great degree as ever. The diminution of the visual acuity is shown by the letter test. When the accommodation was paralyzed, + $\frac{3}{4}$ D. brought V. no higher than it was before the use of the atropine. Accompanying are fields for white, January 30, 1891. The diminution of the fields is more or less concentric, greater for O. S. than for O. D. I may remark here that the intelligence and powers of close observation of the patient make the charts good to a higher degree than is the rule. Centrally the vision is good for colors; the taking one color for another is done chiefly in the outer parts of the color fields. The patient sees best in broad daylight. The field of vision for white diminishes as the light in the examining room is diminished. The patient is hemeralopic. This is not, however, due to the injury, as he has been so all his life.

February 6th.—The weather for the past week has been wet and cold. Mr. C. has exposed himself much and has kept very late hours. As a consequence, he has suffered much with his eyes. V. O. D. = $\frac{18}{40}$, O. S. = $\frac{18}{50}$. Fields of vision as in Chart No. II. These show how cold, wet weather increases the eye troubles.

7th.—Subcutaneous section of the left supra-orbital nerve was made. A small knife was passed down to the bone external to the nerve just above the notch, and then the blade was shoved under the nerve and the cutting edge of the knife turned forward. The nerve could be felt to give way under the knife. Patient says the greatest pain he felt during the section was at the back of his head; he now could "trace the course of the nerve through his brain." A slight swelling of the skin occurred over the point of section. Immediately after the operation pressure over the supra-orbital nerve no longer causes spasm of the orbicularis. Section of the nerve was done without first having recourse to other treatment for two reasons: First, because when the right nerve received its injury the patient underwent three years and a half of internal treatment without the slightest benefit. This treatment included morphine injections, prolonged courses of salicylate of soda, of mercury and potash, counter-irritation, strychnine, eye-glasses (!), giving up school and resigning himself to outdoor life, hunting, treatment of the nose, giving up tobacco, and what not. The trouble grew steadily worse. The second reason was that the patient wished to rejoin his engineer corps the first of March, and section of the right nerve had done away with all the symptoms within a month.

12th.—V. O. S. = $\frac{18}{40}$ and four letters in $\frac{18}{30}$.

V. O. D. = $\frac{18}{30}$. Supra-orbital region has been very painful since the section of the nerve. Congested appearance of the conjunctiva has disappeared. No longer any orbicularis spasm.

16th.—V. O. S. $\frac{18}{30}$ and three letters in $\frac{18}{20}$.

V. O. D. $\frac{18}{20}$. Pain in supra-orbital region has virtually disappeared.

21st.—V. O. D. = $\frac{18}{15}$, O. S. = $\frac{18}{15}$. Fields of vision normal. Patient can read without discomfort. The neuralgic pains about the eyes have disappeared. In short, the section of the nerve has done away with the troubles reflex upon its inflammation, and, as far as one may judge, has resulted in curing the inflammation.

March 26th.—No return of any of the symptoms. As for the result of section of both supra-orbital nerves upon the skin of the forehead, there is none that can be demonstrated. The sensibility of the skin of this region is apparently as great as ever. After the section of the right nerve there existed a hypersensitiveness of the skin on the right side of the forehead for some weeks. This gradually disappeared. Mr. C. tells me he has not noticed the same condition after the section of the left nerve. In the case of the right nerve the injury had lasted three years and a half before a section of it was made, and it required four weeks for the reflex troubles to disappear. In the case of the left nerve the injury had lasted only four months, and two weeks were sufficient to do away with the reflex troubles after the section of the nerve had been made.

Consideration of the case brings to light many questions. The cause of all the trouble? A contused wound of the supra-orbital nerve resulting, most probably, in a localized perineuritis. If a localized perineuritis with accumulation of leucocytes in the nerve sheath, why is there rather a tendency to the increase than to an absorption of these leucocytes? Two possibilities suggest themselves—the superficial position of the supra-orbital nerve, and an inherited diathesis. The position of the nerve makes it the constant recipient of more or less grievous insults—such as pressure of the hat, lying on the face while asleep, movements of the eyebrow, as in frowning, etc., circulatory changes brought about by changes in the atmosphere, etc. As to the diathesis, there is a family and an individual history of rheumatism. Mr. C. has had rheumatism in his arm and has the "rheumatic pharynx." The history of the case shows that all of the reflex troubles did not follow immediately upon the receipt of the injury, but that it required several months for the full picture to be completed. It would be interesting to know why as a reflex from injury to the supra-orbital nerve the only fibers of the orbicularis which respond in this case are those of the inferior palpebral portion of the muscle. Another interesting point is that the reflex troubles do not confine themselves to one eye, but appear in both eyes and differ only in degree, being more severe in the eye whose nerve was injured. It is unusual enough that a person should have received an injury to the right supra-orbital nerve, and then four years later to the left, and both injuries be severe enough to be followed by reflex troubles whose tendency was to increase in severity. In comparing the symptoms of the two cases—one at the end of three years and a half and the other at the end of four months—I find that they differ only in degree. Whether the three-years-and-a-half subjection of the eyes to a pathological reflex agency left the eyes when cured more susceptible to a similar agency coming into force later, there is little in the two cases to help us in deciding.

The constant current was tried in this case, one pole being applied to the nape of the neck, the other to the region of the eye and supra-orbital nerve. Its only effect was to increase the severity of the reflex troubles. Though electricity was applied after the section of the nerve, during its process of healing, I believe the applications in no way hastened the cure, which must be attributed entirely to the section of the nerve.

THE USE OF THE ACTUAL CAUTERY IN INFECTED ULCERS OF THE CORNEA.*

By JOHN HERBERT CLAIBORNE, M. D.

The first use of the actual cautery in diseases of the eye is said to have been in the time of Hippocrates (1). We are told that Hippocrates destroyed growths on the inner surface of the lid with iron brought to red heat.

Celsus (2) likewise used it in tear-sac fistula and in trichiasis. Later on, Razek (3), the Arabian, employed it to cure tear-sac fistula.

In 1870, Korn (4) was the first to employ the galvano-cautery in trachoma. Just (5) and Schmidt-Rimpler (6) failed to convince themselves of its benefit in this disease, and thereafter for a time the procedure fell into disuse. It remained for an American, a Californian, Martinache (7), to be the first to employ the actual cautery in affections of the cornea.

In 1872 he exhibited at a meeting of a medical society in San Francisco several patients who had been cured of ulcers of the cornea by the employment of the actual cautery.

Almost at the same time Samelsohn (8), of Cologne, recommended the galvano-cautery in trachoma, tear-sac fistula, and blepharitis ulcerosa.

It is remarkable that so many should have used the actual cautery and the galvano-cautery in affections of the lid and should have omitted to employ it or suggest its use in affections of the cornea. After the publication of Martinache it was taken up by Cohnheim, Sattler (9), Gayet (10), Passerat (11), Wecker, Fuchs, Kuhnt, Nieden, and others in Europe. The advocates of this method of treatment, I believe, are comparatively rare in this country. Gruening (12) has declared himself in its favor in the treatment of ulcus serpens, and in 1885, in the *Archives of Ophthalmology*, classically stated his conclusions.

It would be defining my intention more accurately to say that I purpose to consider the use of the fire cautery in those ulcers of the cornea which are, strictly speaking, the result of infection through an abrasion of the corneal epithelium in whatever way that may occur. And perhaps I might put my meaning in a nutshell by saying that I mean the serpent ulcer of Saemisch and the superficial wandering rodent ulcer. These two affections are unquestionably the result of direct infection from without. By the term serpent ulcer I mean that deep-seated, perforating, dissecting ulcer that insinuates itself between the layers of the cornea and may finally burst into the anterior chamber, in which it deposits pus, causing the condition known as hypopyon. By the term superficial rodent ulcer I mean that form of ulcer which is restricted in its ravages to the superficial area of the cornea, dissecting up and destroying the epithelium alone, propagating itself sometimes by spreading uniformly peripherically by a "zone of propagation," as Gruening has denominated it, sometimes by throwing out slender ramifications that meander and end like blind lanes. No hypopyon is associated with this form of ulcer. There is often over the surface that has been attacked a curd-like scum which can be removed by gentle means.

Schweigger (13) refers to this form of ulcer and denominates it with others as ulcus rodens corneæ. He considers it a rare affection. Such has not been my experience; it has frequently come under my observation.

That the actual cautery should be a rational procedure in infected ulcers of the cornea, perhaps all are willing to admit. That it has been proved abundantly to be an efficient remedy, the experience of many observers testifies.

I have no statistical experience to recite, but the constant use of the actual cautery in infected ulcers of the cornea for the last six years convinces me that it is the most rapid and certain method of checking an infection in the cornea. One case in particular is especially to the point, although it was a case, more strictly speaking, of abscess:

An old woman of sixty years lay in the uppermost story of a tenement house in August, in a feather bed, panting like a tired dog. She suffered from cancer of the breast, and two years before had had facial paralysis of the left side from riding exposed in the wind. Her left eye had been more or less sore ever since. I found facial paralysis, epiphora, and a large abscess combined with ulcer in the lower half of the cornea. Almost the entire lower half of the cornea was filled with pus. The bottom of the anterior chamber could not be seen. The tension of the eye was decidedly increased. The actual cautery under cocaine anæsthesia was applied and the entire abscess burnt down to the level of the surrounding cornea. In the burning, the aqueous fluid was gently evacuated. Relief of pain was immediate. The eye improved for several days, when the abscess was observed to be on the increase again. The cautery was repeated as before and was attended by evacuation of the anterior chamber. The abscess immediately improved. The infiltration commenced to be absorbed and the ulcer to become smaller. The patient would have pain as long as the fistula in the cornea was closed; as soon as the tension from within was diminished by the bursting of the cornea, relief would be experienced. She had been kept on the use of atropine before this time. Eserine was instilled then three times a day, and the use of atropine was discontinued.

Immediate improvement followed this change and the cornea closed for good. The cautery was used once more two weeks later in order to hasten the absorption of the infiltration. At the end of two months the patient was seen again. She had been operated upon for the cancer and had made a good recovery. A small leucoma adhærens was found in the lower portion of the cornea. The lens had escaped scot-free. The cornea was clear and healthy up to the margin of the leucoma. I feel certain that this eye was on the point of destruction, and that it was saved through the actual cautery. I feel equally certain that no other remedy would have saved it. The abscess probably started as an ulcer that arose from injury to the uncovered cornea. The ulcer became converted into an abscess, and, indeed, throughout the entire time there was an excavation over the apex of the abscess.

Gruening considers the actual cautery particularly indicated in the incipient stage of the ulcus serpens, and thinks that in the more advanced stage of the disease, when there is infectious material in the anterior chamber, the combined effect of the Saemisch section and the actual cautery is preferable.

---

* Read before the Section in Ophthalmology and Otology of the New York Academy of Medicine, April 20, 1891.

For six years I have not used the Saemisch section under these circumstances. I have supplanted it entirely by the actual cautery. I find that often after the first application the deposit is absorbed, and I always find it diminished.

As we know, the pain in ulcus serpens is excessive, particularly at night. For this, morphine is absolutely necessary when the disease is treated on the expectant plan. I have known this pain entirely relieved by the cautery, so that a patient who has not slept for nights has a sound rest after the use of the cautery. I am stating, perhaps, a trite observation when I remark that there is great pain on the top of the head. The patients say their scalp is sore to the touch. This symptom is always removed by thorough applications of the cautery. I think the secret of curing ulcus serpens with the cautery lies in its thorough use. The depth of the ulcer should be charred and light touches be applied to the "zone of propagation." Fastidious handling of the cautery will serve only to irritate an infected ulcer of the cornea. In the majority of cases I have kept the eye under the influence of atropine, but I do not consider it necessary in all cases. I never use eserine, unless there is perforation of the cornea.

I think there should be a difference in the manner of touching the cornea in ulcus serpens and ulcus rodens, and I think the instruments employed should be somewhat different. There are two platinum probes in the shops here that are known as Gruening's cautery probes. One is much more delicate and slender than the other. The heavier one, I think, should be employed in ulcus serpens and the lighter one in ulcus rodens. In the latter disease the epithelium alone is affected, and the intention should be to destroy only the superficies of the cornea. In ulcus serpens, as has been said, a more thorough and deeper destruction is desired. In ulcus rodens the heated probe should be carried in successive touches around the edge of the entire ulcer and, in case its branches meander, to the limit of the ramifications. I have often tried cauterizing the periphery alone, but it does not succeed in stopping the process. I am convinced that it is necessary to destroy the center likewise. One cauterization will often stop the process in each form, and I have never known a case in which three cauterizations failed to do so. It has been asserted that a dense leucoma follows the use of the cautery in ulcus serpens. I have never known it to happen; and I have seen facets result only when the ulcer was deep and destructive and repeated cauterizations were necessary. I have never known a facet to result from the use of the light probe in ulcus rodens. Martinache used a "button sound" and a spirit-lamp in his experiments. It will be seen that the probe I have described is similarly constructed. He also used a strabismus hook. I fail to see how any one can prefer the galvano-cautery or the thermo-cautery to the simple device of Martinache and Gruening.

The heat from the thermo-cautery and the galvano-cautery is so great that it necessarily produces evil effects from radiation. For the same reason it is more likely to cause perforation of the cornea. Moreover, on account of the distance of the glowing point from the hand of the surgeon in these appliances, there is greater uncertainty in making the application accurately. The opposite of all these objections seems to me to be the case with the platinum probe.

Yet the probe contains enough heat to thoroughly and effectually destroy the infectious material, and it unquestionably requires greater deftness to use the probe, for it has to be transferred rapidly from the flame of the lamp to the infected area. I think a large spirit-lamp preferable to a small, on account of the greater heat produced by a large flame. It is important that the probe be held in the apex of the flame, in order to avoid the gaseous region in the center, where the heat is not so intense. I think success in the use of the actual cautery depends likewise upon the smoothness with which it is applied. Rough handling of an eye affected with ulcer of the cornea will materially modify the result of treatment. I have known the stop-speculum to be used and the ball to be steadied by conjunctival forceps when the cautery was applied. These procedures invest cauterization with the dignity of an operation, and invariably frighten and demoralize the patient. I fail to see the necessity of employing them. The following method is more rational and is perfectly efficacious if properly observed: The patient being seated, the surgeon stands at the back of his chair. The patient's head rests firmly against the chest of the surgeon. The probe is held in the right hand, and an assistant holds the spirit-lamp to the left of the surgeon on a plane with the patient's eye, but in such a way that he does not see it. The patient being directed to look up, the eyelashes and the border of the upper lid are pressed by the ball of the left index finger against the supra-orbital ridge. The lashes and border of the lower lid are caught by the ball of the middle finger and pressed against the infra-orbital ridge. The eye is then held firmly by gentle pressure backward.

The probe is held in the apex of the flame until it is at a white heat. It should then be transferred rapidly to the eye and lightly laid upon the surface of the ulcer. I think it a mistake to permit the probe to remain on the cornea until it becomes cold. It should be lightly applied and lightly removed, and I can best describe the movement by the colloquial expression "touch and go." At the moment of contact of the probe with the cornea there is a mild explosion and a smell of burnt horn immediately follows.

I am accustomed to wash the eye, conjunctival sac, and lids after the use of the cautery with a solution of bichloride of mercury (1 to 5,000). A thin pad of cotton, wet in this solution, is tucked neatly over the closed eye, thin layers of absorbent cotton are laid over this, and a compressory bandage is applied. This is allowed to remain on for twelve or eighteen hours, unless it becomes uncomfortable, in which case the patient is directed to remove it and to bathe the eye every hour or two with a hot solution of borax of the strength of a teaspoonful to a pint of water.

At the first blush one would imagine that cocaine was a great boon in cauterization of the cornea. I have never known pain experienced from the cautery under the use of cocaine, and I have used the cautery upon the cornea without the use of cocaine without pain.

It is well known that the cornea is anæsthetic in ulcus serpens, and if I should be so unfortunately placed as to be compelled to perform this operation without cocaine or general anæsthesia, I should assure the patient it could be done without pain. Nevertheless, I advocate the use of cocaine. I have already published my views on the use of atropine and eserine in cases of ulcer that are treated by the actual cautery. The treatment of infected ulcers of the cornea by the actual cautery has become routine treatment in my hands. I can not formulate my opinions in this matter more succinctly than by saying:

1. The actual cautery is indicated in all infected ulcers of the cornea.

2. When properly and thoroughly applied, it acts quickly, safely, and happily.

Bibliography.

1. *Cf.* Hirsch in Graefe's *Saemisch*, Bd. vii, p. 50.
2. *Ibid.*, p. 263, w. 265.
3. *Ibid.*, p. 29.
4. *Berl. klin. Wochenschrift*, 1870, p. 221.
5. *Zweiter Bericht über die Augenheilanstalt zu Zittau*, 1872.
6. Nagel's *Jahresbericht für 1870*, p. 266.
7. *Pacific Med. Journal*, 1873, p. 294.
8. *Archiv für Augenheilkunde*, 1873, Bd. iii, p. 114.
9. *Bericht d. Heidelberg. ophthalmol. Gesellsch.*, 1879, p. 140.
10. *Gazette des hôpitaux*, 1877, No. 11, p. 86.
11. Contribution à l'étude de la cautérization ignée de la cornea. *Thèse de Paris*, 1877.
12. Gruening. On the Use of the Actual Cautery in the Treatment of Ulcus Corneæ Serpens. *Arch. of Oph.*, vol. xiv, No. 1, 1885.
13. *Handbuch der Augenheilkunde*, p. 527. *Verbesserungen.*

An Unexpected Cause of Puerperal Fever.—"Professor Paramuchi has reported a case of puerperal fever in which a very unexpected cause was brought to light—that is to say, the putrid remains of a tapeworm in the uterus. No untoward symptoms seem to have occurred until the tenth day after delivery, when the patient became feverish and prostrate, and lost her appetite. The lochial secretion was very foul. Large doses of quinine were ordered, but no effect was produced on the temperature, which the next day was 104·2°. The uterus was consequently washed out, two catheters being used for the purpose, as a regular uterine instrument was not at hand. The outlet catheter, after discharging some very fœtid fluid, was choked up by what was found to be a putrid tapeworm. This was of course removed and sublimate irrigations given, and the symptoms soon disappeared. Regarding the question of how the tapeworm came to be in the uterus, inquiries elicited the fact that a few days before her confinement the patient had been suffering from dysenteric symptoms, and, in view of her condition, had not taken any medicine. It is probable that the worm managed to migrate after delivery from the rectum to the vagina, and that there it died and became putrid."—*Lancet.*

The Medical Association of Central New York (including the counties of Cayuga, Chenango, Cortland, Erie, Genesee, Livingston, Madison, Monroe, Onondaga, Ontario, Orleans, Oswego, Seneca, Wayne, Wyoming, and Yates) will hold its twenty-fourth annual meeting in Buffalo on Tuesday, June 2d, under the presidency of Dr. Nathan Jacobson, of Syracuse. The programme gives the titles of forty-two papers.

THE
NEW YORK MEDICAL JOURNAL,
A Weekly Review of Medicine.

Published by
D. Appleton & Co.

Edited by
Frank P. Foster, M. D.

NEW YORK, SATURDAY, MAY 30, 1891.

ONE OF THE DANGERS OF HEALTH RESORTS.

In the selection of a health resort for a patient the physician necessarily exercises great caution. He should know thoroughly, and if possible by personal examination, the climatological factors which enter into the problem. He must consider the altitude, the relative humidity, and the average temperature of the region he recommends, and must also understand the nature of its prevailing winds, the daily extremes and suddenness of changes of temperature, the contiguity of water and forest, and the comparative number of clear and cloudy or rainy days. It is well, too, if he is familiar with its flora. But even if the well-trained physician is conversant with each and all of these particulars, which unfortunately is by no means commonly the case, there are certain other points of great importance which he seldom or never takes the trouble to investigate personally.

While it may be considered sufficient as a rule to make a moderately careful choice of the climate appropriate for an invalid, how many physicians deem it an additional and an imperative duty to familiarize themselves with the minute details regarding the water-supply, sewerage system, food, and comforts of the dwelling-place which the patient must enter upon his arrival at his destination? Manifestly these are matters of no trifling interest. No invalid would voluntarily spend his season of recuperation in a house of which the water-supply was contaminated by unhealthful surface drainage, of which the rooms were infected by inefficient methods of sewerage, or in which there might have been immediately preceding his coming some patient with typhoid fever, diphtheria, measles, scarlet fever, or other contagious or infectious disease. Yet the patient is generally left to run the gantlet of these dangers, and he may thank kind fortune if he not only escapes them unscathed, but also improves or recovers from his orginal malady.

We will not stop to examine all of the ambuscades made by disease to await victims at many health resorts, but will particularize with regard to one only. Among communicable disorders, consumption or tuberculosis takes rank as the chief destroyer of mankind. Moreover, it is precisely those afflicted with this dread disease who receive marked benefit from certain climates, and who therefore congregate in large numbers in such regions as seem most favorable for their improvement. In this country they select Florida, the Carolinas, Colorado, and Southern California; in Europe, certain portions of the Mediterranean coast. A legion of hotels and boarding-houses has sprung up to meet the requirements of this migration. Now, in the light of recent medical discovery, each tuberculous patient is to be regarded as a nidus of tubercular germs. From him others may be contaminated by inhaling the specific microbes which exist in his lungs and which are continually being ejected from him by expectoration. While this is not a pleasant subject to dwell upon, it is important that consumptives themselves as well as other people should more generally realize the nature of this menace to the health of the public. Comparatively few tuberculous patients are as yet aware of the infective nature of the discharges from their lungs and of the need for their destruction, although it is now ten years since Weichselbaum, of Vienna, caused numberless rabbits to die of tuberculosis by having them breathe air which was made to pass over the sputa of human consumptives before it reached their cages. The bacilli of the disease, discovered by Koch, are present in large numbers in the expectoration, but they are not specially dangerous so long as they are not dry enough to be blown about in the atmosphere and to be inhaled and begin devastations anew in some delicate but still healthy pulmonary organ. We say, then, and desire to emphasize these facts, that consumptive patients are not fully aware of the venom that is in them, that their relatives and friends do not know of the danger, and particularly that this knowledge has certainly not yet reached the hotels and boarding-houses of the health resorts; and we might further add that even the physicians at many of these climatological stations seem not yet to have awakened to the need of acting upon the results of recent medical researches.

Let us examine almost any one of these hotels or boarding-houses. In many of their rooms for years consumptive patients have passed whole seasons, taking no precautions as to the ultimate destination of the bacilli which emanated from them. They spend whole days upon spacious verandas, on whose floors are innumerable tell-tale stains, each at some time or another the temporary resting-place of numbers of tubercular germs. The warm sun and the gentle airs, which are the special features of such resorts, both favor microbic desiccation and local dissemination. What chance, then, we ask, has the consumptive to avoid further inoculation of his wounded pulmonary tissues? What opportunity have the healthy relatives or friends who accompany the patient, or other winter visitors, to escape the risks of breathing this bacillus-laden atmosphere?

It will be seen that the consumptive owes it to his fellow-men to protect them from contagion as far as possible. This he can do to a great extent by the careful destruction of his expectoration. At the large apothecaries' shops paper cups are to be had by the dozen at a small price, which after use can be burned. The keepers of hotels should see that the rooms of tuberculous patients are plainly and appropriately furnished for their special use under the advice of a physician, and after the departure have them properly disinfected and renovated. In such rooms, in the long corridors, and upon all of the piazzas there should be an abundant supply of cuspidors; these should always be half filled with water, and the contents should be burned or otherwise destroyed daily. The verandas should be thoroughly scrubbed with soap and water or with some antiseptic solution daily. But naturally our chief reliance must be placed upon the education of the invalids themselves and their relatives or attendants to a knowledge of the facts, and upon their conscientious and scrupulous carrying out of the procedures recommended. In the mean time, until these innovations are made, consumptives and other delicate visitors to such winter resorts will do better to flee to farms or to tents and camp out upon the hotel grounds, or in the pine woods, or among the mountain solitudes, than to endanger their future in rooms which reek with the germs left by former occupants or upon verandas where lurk virulent and insidious enemies.

MINOR PARAGRAPHS.

THE FORM OF THE THORAX PARTLY DETERMINED BY GRAVITATION.

In the *Proceedings of the Royal Society*, Dr. Anderson Stuart furnishes a simple means of demonstration of the important part played by gravitation in molding the form of the vertebrate thorax. It is well known that quadrupeds have the transverse section of the thorax elliptical with the long axis vertical, while in adult man the transverse diameter exceeds the antero-posterior. That this change is largely brought about by the influence of gravitation is shown by means of a hoop made of crinoline steel half an inch wide and about six feet long. It should be first held so that its plane is vertical; its form will be that of an ellipse. It should then be grasped firmly between the forefinger and thumb of one hand, and the internal face of the portion grasped gradually turned till it looks straight forward. The front part of the hoop will be lower and the diameters will approximate each other. The turning is to be continued until the face which looked straight forward looks upward and forward, so that the plane of the grasped portion corresponds to that in which the lower dorsal region of the vertebral column of man lies. The transverse diameter now exceeds the antero-posterior, and the exact curve and direction of the surface of the lower ribs are reproduced. The twist in the long axis of the rib and the great hollow on each side of the vertebral column also appear.

"PROTECTED" TRIAL LENSES.

It may be a source of interest and profit to those of our professional brethren who believe in the justice and equity of our present tariff laws to read the advertisement of a well-known firm of opticians of Philadelphia, in the *Ophthalmic Review*, a magazine published in London. The last sentence of the advertisement reads: "If you are contemplating the purchase of a set of trial lenses, do not omit to ask for a description of —— complete set, containing 110 pairs of mounted lenses, trial frames, etc., in handsome morocco and plush-lined case, for $60.00, £12 (excepting in the U. S., where price is $75.00)." It seems like a fair inquiry to ask how it is that this firm can transport their wares to London and sell them in competition with the rest of the world for twenty per cent. less than their price at home, where they are protected against foreign competition. It is fair to infer that this firm finds it to its profit to sell its goods in London at the price quoted, for there is no reason to suppose that its members are posing as philanthropists in behalf of poverty-stricken English ophthalmologists; and, if they do find such sales profitable in London, they could certainly make an equally good profit at the same figures at home, in Philadelphia, where the cost of transportation and additional handling would not be incurred. The effect of our tariff laws in this case seems decidedly in favor of England.

SPINAL PARALYSIS IN CHILDREN.

Several cases of this disease are reported by Professor Charcot in a recent number of the *Journal de médecine et de chirurgie*. In examining into the antecedents of these cases a family history of nervous disease is frequently found. Hysteria, epilepsy, insanity, and various other nervous affections are not uncommon. This is, however, in contradiction of Cordier and others, who have seen the disease occur epidemically. In one case reported by the author fatigue seemed to play an important ætiological rôle. On the third day after excessive fatigue the child became delirious and one of the legs was found to be paralyzed. The case was peculiar from the fact that but one limb was attacked at the outset. The paralysis did not change from place to place and finally locate itself in one member, as is frequently the case. Pain, though a rare symptom, was present in this case. It was confined to the sciatic region and was very severe. Complete loss of all electrical reaction indicated that all hope of cure was gone. A second patient was attacked without apparent cause. Chilliness was the only symptom at the onset, and was followed in the evening by paralysis of the left leg. On the following day the left hand also was involved. The bladder was soon affected, which resulted in retention of urine for several days. This is a symptom of frequent occurrence in children.

THE UNIVERSITY OF PENNSYLVANIA.

The energetic provost of the university, Dr. William Pepper, is reported to have offered $50,000 toward a permanent endowment fund of $250,000 for the Medical Department, and $1,000 a year toward an annual guarantee fund of $20,000 for five years. The offer is subject to the provisions that the university shall decide, before June 1st, upon the establishment of a four-year obligatory graded course, to be put in operation before September 1, 1893; and that the endowment and guarantee funds be fully subscribed before January 1, 1893. The medical faculty has pledged itself to carry out the first requirement, and its members have subscribed $10,000 a year toward the guarantee fund; so that there can be little doubt that the school will soon be in the condition to which the provost's efforts are directed.

A NEW WAY TO "BEAT" THE DOCTORS.

A well-known New York surgeon has sent us an advertisement that reads as follows: "Co-operative Medical Service, —— West —— Street, intended to give service of best regular physicians at nominal rates. 50 cents fee. Confinements, $3. Visit or private office consultation." Our correspondent speaks of the scheme denoted by this advertisement as another obstacle to success in earning a livelihood by medical practice, one added to the chronic and growing competition of the hospitals and dispensaries. We are confident, however, that this venture, utterly foreign as it is to American ways, will delude only such patrons as are not worth having.

THE QUESTION OF COMPULSORY MEDICAL EXAMINATIONS.

The question of the power of a court to order a medical examination of the person by a designated examiner has been decided in the negative by the United States Supreme Court, on an appeal in the case of a suit for damages for personal injuries brought by a lady against one of the great railway corporations. Two of the judges dissented, but we presume it may be taken for granted that the humane decision mentioned is final. The absolute sanctity of the person, except in criminal cases, seems to us to admit of no question.

THE PROPOSED PAN-AMERICAN MEDICAL CONGRESS.

Dr. Charles A. L. Reed's project for a gathering of the medical men of the continent, proposed at the recent meeting of the American Medical Association, has met with commendation from men qualified to form a trustworthy opinion as to its practicability, and promises to result in a congress that will, we hope, inaugurate a lasting series.

ITEMS, ETC.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported during the two weeks ending May 26, 1891:

DISEASES.	Week ending May 19.		Week ending May 26.	
	Cases.	Deaths.	Cases.	Deaths.
Typhoid fever	20	2	13	5
Scarlet fever	238	28	232	24
Cerebro-spinal meningitis	5	4	3	0
Measles	378	20	364	22
Diphtheria	69	15	74	24
Small-pox	1	0	0	0
Varicella	4	0	15	0
Whooping-cough	1	11	3	8
Erysipelas	0	0	1	0

The New York State Medical Association.—The seventh annual meeting of the Fifth District Branch was held in Brooklyn on Tuesday, the 26th inst. The attendance was unusually large and the proceedings were of more than ordinary interest. Dr. Stephen Smith, of New York, was in the chair and delivered an inaugural address that sketched the early history of the late Dr. Alonzo Clark's treatment of peritonitis in the wards of Bellevue Hospital about forty years ago. The intent of the paper was to recount some of the half-forgotten victories of opium in a disease which, as it had before been treated, was fatal in over ninety per cent. of the cases. The paper was discussed by Dr. Carroll, Dr. Gouley, Dr. Manley, Dr. McCollum, and others. On motion of Dr. Gouley, it was voted to carry the subject of the treatment of peritonitis over to the October meeting of the State Association, when Dr. Smith will be requested to open the discussion anew by reading the same paper. The morning session was fully occupied by the discussion of two papers, one of which was by Dr. S. E. Milliken, on The Carbolic-injection Treatment of Hydrocele, showing the advantages of that plan over the use of iodine and other methods. The paper was discussed by Dr. W. T. White and Dr. W. R. Ballou, after which the latter presented his paper on Acute Prostatitis and Prostatic Abscess. Dr. Ballou discussed the relative value of rectal and prostatic incision for the release of pus formed in the prostate, and also adverted to the operation proposed some years ago of attempting the evacuation of pus by the urethra by the passage of a sound. In this connection, the chairman referred briefly to a case in which the last-named procedure was tried by a surgeon of eminent position, the result of which was the rapid decline and death of the patient. The permanent fund of the branch now amounts to over $1,000, which is so invested as to yield an income nearly equal to the ordinary annual expenses of the branch. The afternoon session was quite well attended and was occupied by the address of Dr. Smith, above referred to, and three other papers—namely, that of Dr. H. W. Mitchell, on The Practical Results, especially the Removal of Sterility, following the Operation of Repairing the Lacerated Cervix Uteri. A second paper was by Dr. T. J. McGillicuddy, showing his experience in the use of axis-traction forceps instead of version. He showed two forms of forceps which he had confidence in as competent to obviate, in the vast majority of cases, the employment of the two operations of turning and craniotomy. One of these instruments is called by him an "anticraniotomy forceps," which in his hands has been the means of saving both child and mother in a class of cases that would by some obstetricians have been deemed suitable for the employment of craniotomy. The third paper was the brief recital of A Case of Neuralgia cured by Operation, by Dr. Reginald Sayre. The cause of the neuralgia appeared to be a fracture with great deformity and shortening at the upper third of the thigh, with an extremely small exostosis. The operation apparently was efficient by reason of a liberation of muscular and aponeurotic structures, rather than from its effect upon any nervous elements of appreciable size. Dr. W. T. White was elected to represent New York County upon the Board of Direction.

The New York Dermatological Society.—At the annual meeting, held on the 26th inst., officers for the ensuing year were elected as follows: Dr. George H. Fox, president; Dr. J. A. Fordyce, secretary and treasurer; and Dr. E. B. Bronson, Dr. H. G. Piffard, and Dr. E. L. Keyes, members of the executive committee.

The County Medical Society's Prize.—A prize of the value of $100 is offered by the Medical Society of the County of New York for the best essay, by a member of the society in good standing, on any medical or surgical subject, preference being given to original investigations, other things being equal; but the committee reserve the right not to award the prize if no essay is presented of sufficient merit. No essay that reveals the identity of the author will be considered. Each essay is to be inclosed in an envelope bearing a motto, and is to be accompanied by another envelope (sealed) bearing the same motto and inclosing the name and address of the author, this envelope not to be opened until after the award is made. Essays will be received by Dr. Andrew H. Smith, chairman of the committee, No. 22 East Forty-second Street, New York, until October 1, 1891.

Medical Women and the State Lunatic Asylums.—It is announced that the New York State Civil Service Commission will hold an examination of female candidates for appointment in the State lunatic asylums, in the Capitol, at Albany, on June 11th. Candidates must be residents of the State, and have had a year's hospital experience or been in general practice for three years.

Army Intelligence.—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from May 17 to May 23, 1891:*

By direction of the Secretary, the following assignments of recently appointed medical officers are ordered:

Lippitt, William F., Jr., First Lieutenant and Assistant Surgeon, will report in person for duty to the commanding officer, Fort McPherson, Georgia.

Brooke, Benjamin, First Lieutenant and Assistant Surgeon, will report in person to the commanding officer, Fort Riley, Kansas.

Ireland, Merritte W., First Lieutenant and Assistant Surgeon, will proceed from Columbia City, Indiana, to Jefferson Barracks, Missouri, and report in person for duty to the commanding officer of that post.

Wells, George M., First Lieutenant and Assistant Surgeon, will proceed from Paoli, Indiana, to Columbus Barracks, Ohio, and report in person for duty to the commanding officer of that post.

Banister, William B., Captain and Assistant Surgeon, is assigned to duty as medical officer with Troop B, Sixth Cavalry, while en route from Fort Myer, Virginia, to Fort Washakie, Wyoming. On arrival of the troop at its destination, Captain Banister will return to his station at Washington Barracks. Par. 3, S. O. 104, Division of the Atlantic, May 20, 1891.

Wood, Marshall W., Captain and Assistant Surgeon, is hereby granted leave of absence for one month, to commence on or about the 23d instant. Par. 1, S. O. 104, Division of the Atlantic, May 20, 1891.

McCreery, George, Captain and Assistant Surgeon, is, by direction of the Secretary of War, relieved from duty at Fort Clark, Texas, and will report in person to the commanding officer, Fort McIntosh, Texas, for duty at that post. Par. 4, S. O. 114, A. G. O., May 19, 1891.

Skinner, John O., Captain and Assistant Surgeon, Fort Davis, Texas, will proceed at once to Fort Clark, Texas, and report to the commanding officer for temporary duty. Par. 4, S. O. 44, Department of Texas, May 13, 1891.

Marine-Hospital Service.—*Official List of the Changes of Stations and Duties of Medical Officers of the United States Marine-Hospital Service for the week ending May 9, 1891:*

Austin, H. W., Surgeon. Detailed as chairman of Board for Physical Examination of Candidates for Appointment, Revenue Marine Service. May 9, 1891.

Carrington, P. M., Passed Assistant Surgeon. Granted leave of absence for twenty-three days. May 5, 1891.

Bratton, W. D., Passed Assistant Surgeon. When relieved at Portland, Oregon, to proceed to Chicago for duty. May 9, 1891.

Magruder, G. M., Passed Assistant Surgeon. Detailed as recorder of Board for Physical Examination of Candidates for Appointment, Revenue Marine Service. May 9, 1891.

Condict, A. W., Assistant Surgeon. Relieved from duty at Chicago, Illinois, and ordered to Portland Oregon. May 9, 1891.

Geddings, H. P., Assistant Surgeon. To proceed to New York on special duty. May 9, 1891.

Brown, B. W., Assistant Surgeon. To report to commanding officer, Revenue Steamer Rush, on the 14th inst. May 7, 1891.

Society Meetings for the Coming Week:

Monday, *June 1st:* German Medical Society of the City of New York; Morrisania Medical Society (private); Brooklyn Anatomical and Surgical Society (private); Utica, N. Y., Medical Library Association; Boston Society for Medical Observation; St. Albans, Vt., Medical Association; Providence, R. I., Medical Association; Hartford, Conn., Medical Society; Chicago Medical Society.

Tuesday, *June 2d:* Pennsylvania State Medical Society (first day—Reading); Medical Association of Central New York (annual—Buffalo); New York Neurological Society; Elmira Academy of Medicine; Buffalo Medical and Surgical Association; Ogdensburgh, N. Y., Medical Association; Medical Societies of the Counties of Columbia (semi-annual—Chatham), Franklin (semi-annual), Herkimer (annual—Herkimer), Niagara (annual—Lockport), Orange (annual—Goshen), Saratoga (annual), Schoharie (annual), Ulster (annual—Kingston), and Yates (annual), N. Y.; Hudson, N. J. (Jersey City), and Warren, N. J. (annual), County Medical Societies; Androscoggin, Me., County Medical Association (Lewiston); Baltimore Academy of Medicine.

Wednesday, *June 3d:* State Medical Society of Wisconsin (first day—Madison); Pennsylvania State Medical Society (second day); Society of the Alumni of Bellevue Hospital; Harlem Medical Association of the City of New York; Medical Microscopical Society of Brooklyn; Medical Societies of the Counties of Cattaraugus (annual) and Richmond (Stapleton), N. Y.; Penobscot, Me., County Medical Society (Bangor); Orleans, Vt., County Medical Society (annual).

Thursday, *June 4th:* State Medical Society of Wisconsin (second day); Pennsylvania State Medical Society (third day); New York Academy of Medicine; Society of Physicians of the Village of Canandaigua; Boston Medico-psychological Association; Brooklyn Surgical Society; Obstetrical Society of Philadelphia; United States Naval Medical Society (Washington).

Friday, *June 5th:* State Medical Society of Wisconsin (third day); Pennsylvania State Medical Society (fourth day); Practitioners' Society of New York (private); Baltimore Clinical Society.

Saturday, *June 6th:* Clinical Society of the New York Post-graduate Medical School and Hospital; Manhattan Medical and Surgical Society (private); Miller's River, Mass., Medical Society.

Answers to Correspondents:

No. 356.—We advise you to address some member of one of the boards mentioned. Dr. W. W. Potter, of Buffalo, is a member of the New York board.

Proceedings of Societies.

NEW YORK SURGICAL SOCIETY.

Meeting of March 25, 1891.

The President, Dr. Charles K. Briddon, in the Chair.

Operation for Intracranial Abscess.—Dr. L. A. Stimson presented a patient upon whom he had operated for an intracranial abscess following suppuration of the middle ear. Michael D., aged thirty-nine, was admitted into the New York Hospital on January 11, 1891. His illness had begun a month previously as a severe cold, promptly followed by severe pain in the left ear and by a discharge of pus therefrom which had persisted. Shortly after the pus began to flow from the ear he complained of pain on the left side of the head, especially behind the ear, which grew steadily worse, and two days before his admission he had a general convulsion; since then he had been in a semi-comatose condition, with intervals of restlessness and delirium.

On his admission, the purulent discharge from the ear was present, and there was marked tenderness on pressure over the mastoid process, but no reddening of the skin or œdema. The pupils were normal in size and reaction; his temperature was 102° F.; he was semi-comatose. During the following six days he remained in the same condition, passing urine and fæces in the bed, his temperature ranging between 101° and 104·8°. On the 17th he was transferred to the surgical division and immediately operated upon.

A curved incision was begun behind the base of the mastoid process and carried forward and upward, passing close to the ear, for about four inches; the flap was reflected, the bone exposed, and an opening three quarters of an inch in diameter made through it with a chisel above and slightly behind the external auditory meatus, in the posterior part of the squamous portion of the temporal bone. An incision through the dura gave exit to about three ounces of thin pus; the finger passed freely upward and backward and found no bare bone. It was thought that the abscess had formed between the meninges and not in the substance of the brain, and that it had especially compressed the posterior part of the temporal lobe in its inferior and outer surfaces. A drainage-tube was inserted and the wound closed.

A few hours afterward his mental condition had somewhat improved, and his pain had diminished; the improvement persisted and slowly increased, with occasional remissions that were relieved by irrigation of the cavity, and the wound was finally healed about March 1st.

Meanwhile his cerebral functions presented some features of interest. During the first fortnight he seemed intelligent, but unable to comprehend his surroundings; he would listen intently when addressed, and answer inarticulately, occasionally uttering a word that could be understood, but which was usually unrelated to the question. He was tested by asking him to name well-known objects that were shown him, and it was not until during the second week that he could correctly name a key and a coin, although two days previously he had indicated by gestures the use of the key. During the third week he picked up a newspaper and tried to read it, asking the nurse afterward why he was unable to. He called his nurse (a lady) "gentleman," and spoke of her as "that gentleman." The speaker was absent during the third and fourth weeks, and on his return, noticing the patient's wondering look when he approached, asked him if he had ever seen him before; he replied in the negative.

He now said that about a month after the operation he began to remember things, and that little by little the recollection of the past had returned to him; he remembered now the beginning of his illness, but not his admission into the hospital, and nothing of what occurred there during the first month. He spoke of the difficulty he had had in calling things by their right names, and said the difficulty still persisted, although it was very much less; and what interested him particularly was the difficulty he had found, and still found, in reading. He could now write his name rapidly and surely. There was no paralysis, but his walk was somewhat feeble and uncertain.

Dr. John A. Wyeth said he supposed what was known as the "trap-door" operation was familiar to those present. By it large areas of the skull could be exposed. It did not increase the danger while it added to the value of the exploratory work. He had made use of it three times in the last three months for brain troubles.

Notes on Cases of Hernia relapsing after Various Operations for Radical Cure.—Dr. William T. Bull read a paper on this subject. (See page 615.)

Dr. Stimson had been glad to hear Dr. Bull say that the statistics given were not to be taken as evidences of the proportion of recurrences after any given operation, but that they were only tabulated statements of those cases which had come under observation. These recurrences might, however, be taken as an indication that no case could be pronounced permanently cured until after a number of years; but, if a case remained cured, say, for four years, it would hardly be fair to argue that because it had not gone five years it was not a radical cure. The question of the proper method of treatment which held out the best chance of a long delay of recurrence naturally formed the basis of any discussion on the subject. He was not prepared to speak dogmatically in favor of any particular operation. He had for two or three years past practiced exclusively the open method of treatment. He was unable to state the proportion of cases in which recurrence had taken place, but in one case it had been full and complete, the hernia descending into the scrotum as fully as before the operation. In another case there was a new hernia, which he did not think could be fairly called a recurrence, as it was not along the line of the former hernia. It was a ventral hernia about an inch to the inner side of the cicatrix, and had nothing to do with the original one. In another case a man who had been operated on by the speaker a year previously had come back with a hernia on the other side. This patient replied, when asked how the first hernia was getting on, that it was all right. Examination, however, revealed the fact that the abdominal wall was thin at the upper angle of the cicatrix. In his experience this was the weak point of the open method. Perhaps, however, the fault lay in a misapprehension as to the precise technique as laid down by Dr. McBurney, the statistics of whose results for a period of three years showed a very small proportion of recurrences. The speaker said that he had himself departed somewhat from Dr. McBurney's lines, and possibly his results would have been better had he not done so. It had been argued that cicatrices were weak; possibly they were in respect of vitality, but physically they were very tough and unyielding, as every one knew, and it was with these physical qualities that we were here concerned. Cicatrices left after the open operation for hernia were not materially longer or wider than after primary union, and were a very strong barrier to oppose to a hernia. He believed that a uniform cicatrix continuous with all the layers of the abdominal wall on each side formed an ideal support. He had found the only weak spot to be in the upper angle of the cicatrix. No operation could make the aponeurosis of the external oblique and the external ring a better barrier against a hernia than Nature made them, and yet they were unable to prevent a bubonocele from becoming a complete hernia; consequently, operations that were limited to creating a barrier at this point must fail if a new hernia began. The hernia must be arrested at the beginning, if at all; and in the absence of any means of closing the internal ring, and thus preventing the beginning of a hernia, he believed that the open method, which rested upon a basis that was radically different from the others, was the best now at our command. It created a cicatricial plug through which a hernia could not descend. If it descended, it must descend along the side of the cicatrix, and that would happen only when the cicatrix did not extend sufficiently into the adjoining abdominal wall. In one case of bubonocele he had narrowed the internal ring by drawing down and suturing the edge of the internal oblique and transversalis muscles, but sufficient time had not yet elapsed to determine the result.

Dr. J. E. **Kelly** said that it must be remembered that Dr. Bull was to the subject of hernia what the pathologist was to general practice—the ultimate observer of unsuccessful treatment only. There was no question of the necessity of using the same rule in the choice of an operation in hernia that should be applied in general surgery—to operate only in unavoidable cases. Dr. Stimson had spoken of the "weak spot" left by the open method as being that at the upper extremity of the incision. If we considered that Dr. McBurney's operation was mainly recommended by the consolidation that it produced between the deeper fibrous coverings of the abdominal cavity and the superficial cicatricial tissue, the anatomical explanation of this being the weak spot was obvious. The abdominal wall consisted of the external fibrous structures—namely, the skin, the superficial fasciæ and the aponeurosis of the external oblique, the deep fibrous structures or the peritonæum and the fascia transversalis, and the intermediate muscles, which did not form a resisting union after operation with the contiguous fibrous layers. In the modified inguinal wall a reliable union took place below the margin of the muscles between the superficial and deep aponeurotic tissues forming that barrier which was so much admired in favorable cases of the open method. Unfortunately, the union was limited superiorly by the conjoined margin of the muscles, intact or divided as they might be in the operation. Here they separated the fibrous and cicatricial layers, and, owing to their interposition, these were no longer mutually supporting. The secondary protrusion forced through, or before it, the deeper structure, then made its way under or between the inferior muscular fasciculi, and eventually overcame the resistance of the superficial tissues, whether they consisted of the normal structures or of the cicatrix. The ultimate result of the speaker's observations indicated this as an insurmountable defect in McBurney's operation, as, notwithstanding to what extent the incision might be carried upward, this weakness still existed; in fact, the higher the incision the greater was the thickness of the muscles between the superficial cicatricial tissue and the fascia transversalis, which latter, in addition, became weaker as it ascended on the abdominal wall. In consideration of this objection, he had attempted another method in his recent cases, which he termed the "laminated operation," the principle being to utilize each layer of the abdominal wall as a vital splint for the lines of incision in the structures lying superficially to and deeper than it. The axial line of the hernial tumor being regarded as the "line of election" for the incisions in the ordinary operations, he made his cutaneous incision parallel to it, but about half an inch higher, and separated the lower margin for a corresponding distance below the line of election, where he divided the next layer of tissue (in well-developed patients, Camper's, or the superficial, fascia), the upper margin of which incision he treated in a manner similar to the lower one of the preceding plane, until he reached the level corresponding with the incision in the skin where he divided the next fascial covering (Scarpa's, or the deep, fascia), thus coming down to the aponeurosis of the external oblique, which in its turn was divided in a line corresponding to the second incision. It was obvious that, when the structures were restored, each line of incision was overlapped to the extent of an inch, and if union was obtained a much firmer wall would result.

Dr. Stimson had properly indicated that recurrence began on the deep or peritoneal surface of the abdominal wall, and consequently he would remind operators of the proposition of Mr. Ball, of Dublin, who recommended the twisting of the neck of the sac, with the object of obliterating any peritoneal fossæ in the vicinity of the operation. This expedient was so effective in accomplishing what had been alleged for it that it had been proved to have obliterated not alone the fossæ on the side of operation, but also, by traction on the peritonæum, the fossæ in the opposite triangle of Hesselbach, and even the more distant depression at the internal ring. He agreed with Dr. Bull and Dr. Gibney with regard to the very aggravated and unmanageable tumors sometimes seen in recurrence after the open operation, but did not think that the disadvantage was confined to this method, as, apparently, when any radical operation was unsuccessful, the consequent enlargement of the ring resulted in a similar disadvantage.

Dr. **Wyeth** said he was averse to the operation for radical cure, except where strangulation had occurred, or the intestine had become incarcerated, or the hernia was so large that it interfered with the usefulness of the individual. He had never advised an operation except in such conditions, and never would until he saw better results in efforts at radical cure.

Dr. V. P. **Gibney** said he did not think that any more difficult cases came under observation for control by trusses than those herniæ which presented as relapses after what was known as the open method of operation, and such difficulties had not been met with prior to the use of this method.

Dr. S. T. **Armstrong** said that, while in the Marine-Hospital Service, in which it was important to turn out the men operated upon for hernia in the best possible shape for work, he had had experience with the various methods—such as Heaton's, Czerny's, and McBurney's. It was difficult to trace the cases, as the men would ship in every direction. He reluctantly concurred in Dr. Bull's conclusions, inasmuch as, so far as his observations and knowledge of statistics went, the open method had met with no better success than measures previously employed.

Dr. **Robert Abbe** stated that he had no reason to change his ideas in regard to the relative merits of the various methods. After a large experience with operative procedures for radical cure in all classes of cases, to the number of about a hundred and fifty, he was constrained to favor Macewen's as yielding the best results, and it had the merit of applicability to femoral herniæ. Among his own cases, one might be cited as a type of many. A very large man with a disabling hernia had for four years been able to do the heavy work of a sergeant of police after the speaker had operated by Macewen's method, and absolute solidity of the parts had been maintained.

Dr. **Bull** said that it had not been his intention to bring about a discussion as to the relative merits of this or that method of operating. The figures which he had brought forward were merely in evidence of the inefficiency of all of them. There still existed considerable diversity of opinion as to the best method of surgical procedure in these cases, and it was quite clear that no solution of the problem would be arrived at until careful record was kept of the cases of operation and of the number of relapses after a given period of time. His own convictions as to the best form of operation were not yet formed, but he was inclined to think simple excision of the hernial sac, after ligating the neck high up, without any attempt to suture the hernial orifice, was as good as any, and this method could be used with equal advantage in both inguinal and femoral herniæ. The results were just as good by this procedure after five or six years as when efforts were made to suture the external pillars of the ring. The speaker's observations had led him to very decided convictions as to the open method. He must join issue with Dr. Stimson if he placed confidence in a method that was supposed to cure by the substitution of a plug of cicatricial tissue for the normal structures. This so-called plug would eventually yield before the pressure of the viscera from within.

Dr. Bull then presented two patients, both of whom had been operated upon for the radical cure of hernia. In each there had been a relapse. In the case of operation by himself, in which the closed method had been employed, it could be seen that, though recurrence of the hernia had taken place, the coverings were sound and firm, while in the other case, in which the open method had been used, the cicatrix was exceedingly thin and ill adapted to withstand the pressure of the very pronounced hernia from within or that of the truss from without.

Hour-glass Malformation of the Stomach.—Dr. F. Kammerer presented as a specimen a stomach that he had taken from a girl twenty-one years of age. She had come under his care some two months before with a history of having suffered for many years from stomach trouble pointing to the existence of ulcers of the organ. The diagnosis at present was of pyloric obstruction from cicatrization. Still, the symptoms were not quite in accord with this. At times she would vomit everything given her, and at other times could retain food. The fact that certain substances placed on the tip of the tongue would cause vomiting had led to the belief that there was a neuropathic element in the case. After many changes in her condition, she began to lose ground more rapidly. The speaker had considered the advisability of explorative incision, but the uncertainty of the diagnosis, and subsequently the condition of the patient, did not seem to warrant surgical interference. She finally died of exhaustion. The post-mortem revealed a condition, which was evidently congenital, of hour-glass formation of the stomach, the two pouches, about of the same size, being connected by a narrow isthmus of tube the caliber of which scarcely allowed of the introduction of a lead-pencil. The speaker had looked for evidences of cicatrization, but had been unable to find anything of the kind. There was no doubt that, if the condition had been diagnosticated, an operation could have been performed with good chance of success.

NEW YORK NEUROLOGICAL SOCIETY.

Meeting of April 7, 1891.

Dr. B. Sachs in the Chair.

The Pathology of Landry's Paralysis.—Dr. Henry Hun, of Albany, read a paper on this subject. (See page 609.)

Dr. Ira Van Gieson thought that Landry's paralysis was much more closely associated with cases of acute multiple neuritis and acute poliomyelitis than was generally supposed. Landry, in 1859, had first accurately described several cases of ascending paralysis, although several observers had previously referred to the existence of such a disease. The speaker referred to several cases of acute multiple neuritis which had been reported, in which the motor symptoms had predominated and in which the whole course of the disease had been in close accord with that of Landry's disease. He also reported several known cases of acute poliomyelitis which resembled very closely the disease in question. The clinical resemblances of these diseases was characteristic. It was well known that multiple neuritis and poliomyelitis was usually caused by poisons of different kinds, such as the ptomaines resulting from the infectious diseases and from phthisis. Ætiologically, Landry's disease seemed to come under the same category as these two diseases. Before a definite conclusion could be arrived at as to the true pathology of Landry's paralysis, a more thorough examination of all nerve-trunks, with the branches and terminal filaments, would have to be made. Hitherto such observations had been unsatisfactory, because all the nerves could not be examined for obvious reasons. For this consideration the speaker thought that it should not be taken as conclusive when it was stated that the peripheral nerves were not diseased in Landry's paralysis, as thorough examination might have proved the condition the very opposite. As to the hyaline thromboses found in the central nervous organs, such changes occurred in ptomaine poisoning, but were not confined to cases of Landry's disease, as it might be present in any case of poisoning.

Dr. Leonard Weber, some six years ago, had described a typical case of Landry's disease in which the patient had entirely recovered in three months. In this case trauma, the shock of suddenly stopping a runaway horse, or the violent strain of pulling upon the lines, had caused the disease, as the attack had come on subsequent to this accident. He did not think that the trauma militated against the poison theory. He was satisfied that, if a more thorough examination of the nerves were made in these cases, our ideas of the pathology would become more definite.

Dr. M. A. Starr thought that it was a question whether the disease was of sufficient duration to cause neuritis and degeneration of the peripheral nerves, and whether such cases ever continued long enough for changes of this character to take place. It was certain that a myelitic process might cause a suspension of function without causing definite microscopical changes. He had never seen a typical case of Landry's paralysis, but had seen two cases which presented many of its symptoms. One was manifestly a case of diphtheritic paralysis, the other a case of beri-beri. He did not see how Dr. Hun could be satisfied that his case presented distinctive clinical symptoms. As for the case reported bearing a resemblance to multiple neuritis, it certainly differed from any case the speaker had ever seen.

Contributions to the Pathology of Infantile Cerebral Palsies.—The Chairman read a paper on this subject. (See page 503.)

Election of Officers.—Dr. L. C. Gray was then re-elected president and Dr. J. A. Booth secretary for the ensuing year.

NEW YORK ACADEMY OF MEDICINE.

Meeting of May 7, 1891.

The President, Dr. Alfred L. Loomis, in the Chair.

Tuberculin in the Treatment of Pulmonary Tuberculosis.—The clinical experience of a number of physicians who had made use of tuberculin in their hospital practice was given in detail by the several observers.

Dr. F. P. Kinnicutt said that, after using tuberculin for some six months, he had come to regard it as possessing a marked elective affinity for tuberculous tissue. Its value as an aid to diagnosis must be considered relative rather than positive. Doses of minimum strength, gradually increased, and given at longer intervals than had originally been advised, constituted the safest and probably the most efficient method for its use. The beneficial results to be expected in pulmonary tuberculosis were restricted to the earlier stages of the disease. In such forms of the malady the most careful study of the individual, of the history of the case, and of the physical signs of disease previous to inoculation, were essential to forming an opinion of the degree or probable nature of the reaction or the possible ultimate effects of the treatment in any given case. The establishment of constitutional tolerance varied greatly as to time in different patients suffering from apparently similar lesions and could not be accepted as a positive basis for prognosis. Local reactions might continue to be developed under treatment with the entire absence of constitutional effects, as indicated by the temperature curve. Tuberculin was apparently capable in certain exceptional cases, even of incipient disease, of exciting pneumonic processes, with catarrhal and caseous hepatization of various degrees of intensity. Whether such processes were due to the conveyance into other parts of the lung of material affected by the fluid, or by liberated bacilli, or were excited in some other manner, was uncertain. The production of hæmoptysis by tuberculin was comparatively rare. Its use required the greatest watchfulness and entailed much anxiety on the part of the physician. It was the speaker's distinct impression that tuberculin was capable in the early stage of pulmonary tuberculosis of effecting a greater degree of improvement in the physical condition of the lung than had been observed under any other method of purely medical treatment. Its sphere of greatest usefulness would probably be found in combination with other lines of treatment. These impressions must be regarded as open to modification upon more extended clinical study.

The President said that Koch's tuberculin was an agent which excited active changes in tubercular areas, as indicated by the alteration in physical signs. The nature and extent of these changes varied with the amount of the fluid injected and the frequency with which the injections were repeated. If large quantities were made use of, it was possible that symptoms of acute phthisis might be produced. After the injection of small quantities, varying from a tenth of a milligramme to a milligramme, at long intervals, there was no reaction, but activity in the tubercular areas was observed, which, however, soon subsided. No injection should be given after the initial dose, except during the quiescent stages. The activity in the tubercular processes was in most instances arrested if the nutrition of the patient was fully maintained by an abundance of easily digested and nutritious food and by good hygienic surroundings. The physical evidence of arrest was then soon reached. While the number of the bacilli in the sputum had been slightly diminished in most of the cases treated, in no case had they entirely disappeared, and it seemed evident that the number of bacilli could not be taken as a reliable indication of the effect of tuberculin on the phthisical process, and the speaker did not believe that they would entirely disappear. In three cases which had been under his observation recovery had taken place under hygienic and climatic influences, and in these, after all signs of active disease had been absent for a long period and the patients were enjoying good health, bacilli were found in the expectoration. In the majority of the cases treated with the new remedy under the speaker's care and observation an arrest of the tuberculous process had followed the use of tuberculin, but he thought that sufficient time had not elapsed to warrant the expression of an opinion as to the permanency of such benefit. In the minority of his cases the use of tuberculin had been followed by great activity in the original tubercular areas and a rapid development of new areas. In two instances its use had been followed by signs of acute general tubercular infection which rapidly precipitated a fatal issue. A longer and more precise experience was required for the proper and safe use of this remedy, and he was convinced that it would finally take a permanent place among the therapeutical agents for the treatment of pulmonary tuberculosis.

Dr. E. L. Trudeau's observations upon the new agent had been made in the treatment of patients in the Adirondacks. Here, in connection with the climatic advantages, they were given daily cabinet inhalations of peroxide of hydrogen, with the injection of tuberculin twice a week. He had made a series of experiments on animals with a view of establishing immunity by inoculation. These had proved so uniformly unsuccessful that he was inclined to conclude that the failure in Koch's method lay in this direction, and that tuberculin was powerless to confer immunity. The frequency of relapses after the establishment of tolerance had been demonstrated post mortem, confirming the view that immunity was not produced by inoculation. The only real immunity, therefore, that could be invoked to protect the patient against the dangers of reinfection, while attempting to bring about by injection of tuberculin pathological changes tending to necrosis of tubercle, was that to be produced by all measures which had been found to improve nutrition. These consisted of climatic influences, open-air life, faultless hygiene, careful feeding, and medical supervision, to be brought to bear to offset the specific impression made by tuberculin on the areas brought within its influence. The treatment of incipient phthisis held out an added promise, but success or failure depended, as before, upon the persistency and effectiveness of efforts directed to the nutritive processes.

Dr. C. E. Quimby, like the preceding observer, had made use of the pneumatic cabinet during his treatment of patients with tuberculin, or, rather, he had made use of preparatory inhalations for the purpose of expanding and stimulating the circulation and the promoting removal of catarrhal products from the lungs. He then established the specific process by inoculation, using the cabinet to favor absorption until all the physical signs indicated subsidence of active changes in the lungs. He rendered the decomposing elements in the pulmonary tract as aseptic as possible by giving inhalations of antiseptic vapors in the cabinet. Under this method some two hundred patients had all improved, both subjectively and as shown by the physical signs. He believed that the method he had indicated, in conjunction with the use of tuberculin, offered the best means now at our disposal for the treatment of pulmonary tuberculosis.

Dr. A. Jacobi thought that the use of tuberculin, in conjunction with other approved measures for bettering the patient's general condition, offered the best promise of success at present known.

Dr. E. C. Wendt did not think that the febrile reactions following injections were of any diagnostic value, and thought that the entire subject was as yet *sub judice.*

Dr. S. Baruch believed that the reaction caused by tuberculin did possess some diagnostic value, but believed that the remedy was of specific utility only in surgical cases.

Dr. H. S. Stearns had made autopsies in two cases after tuberculin injections, and had found a condition in one of general miliary tuberculosis and in the other tubercular infiltration in the abdominal viscera.

SECTION IN PÆDIATRICS.

Meeting of May 14, 1891.

Dr. Augustus Caillé in the Chair.

Tachycardia in Children.—Dr. H. Koplik presented two patients who had typical symptoms of this condition.

Case I.—E. L., aged eleven years, had suffered from a fright some three weeks previously, and since that time she had complained of vertigo and nausea with frequent attacks of palpitation. These attacks came on three or four times a day, with or without exercise. There was shortness of breath, with precordial uneasiness. At these times there was frontal headache with dizziness. She was excitable and quarrelsome at times. Physical examination showed the presence of Stellwag's symptom. The pulse was 108, but there were no heart symptoms. On the child's skin there was an urticarial eruption, and a marked tremor of the hands also existed. The patient had been under treatment with strophanthus and there was now considerable amelioration. The speaker considered the case one of beginning Basedow's disease.

Case II.—The patient was a girl of eight years, whose father had never enjoyed very good health and whose mother had had several miscarriages. The child had passed through measles, scarlet fever, and scarlatinal nephritis. About four years ago she had noticed some heart palpitation, especially after play and exercise, but now these attacks came on without special excitement. She would wake up at night with severe frontal headache. Examination of the heart showed the apex beat diffused and quite forcible. There was no increase in the area of absolute dullness, and nothing abnormal was to be made out in the right or left ventricle. During the attacks of palpitation the pulse-rate was 148. The eyes showed the Stellwag symptom. The retina had a watered-silk appearance. There was no exophthalmia, but there was a staring expression. This patient had also improved under the use of strophanthus.

Functional Headache from Eye-strain in Children was the title of a paper read by Dr. Joseph A. Andrews. (To be published.)

Dentition in its Relation to Various Pathological Conditions.—Dr. A. Brothers read a paper on this subject. In healthy children, the usual rule given was that the normal eruption of the first teeth occurred between the sixth and eighth months. The author's experience coincided with this, for in 175 healthy nursing infants where this matter had been noted he had found the age of six months and a half as the average period of the eruption. This rule was, however, normally subject to many exceptions. Dentition might occur as early as the first month and as late as the thirteenth month and yet be perfectly normal. The lower central incisors usually made their appearance first. Having determined upon a standard for the normal eruption of the first teeth and for the subsequent progress of dentition, it became a question of interest to determine what effect artificial and mixed feeding, as well as the various diseased states of infancy, would have in disturbing this process. Under the heading "mixed feeding" he included that of children who received other food besides the breast milk from a period preceding the eruption of the first teeth. In sixty-one cases studied, the average period of eruption of the first teeth was eight months and a quarter, but among these there were many cases of precocious as well as delayed dentition. In all cases of this class, whether the first teeth came early or not, the effect on the later teeth was marked. There was a very distinct delay; so that the number of teeth at the periods decided on was far below the normal. Under the heading "artificial feeding" was included that of children deprived of the mother's breast from a period antedating the sixth month. In this class the first teeth emerged, on the average, in twenty-three cases at the age of eight months. The later teeth were delayed to a further degree than in children having a mixed diet. He next directed attention to the influence of disease, congenital or acquired, on the beginning and progress of dentition. In his series he had had three cases of premature ossification of the skull with closure of the anterior fontanelle. In these the first teeth had emerged at six, seven, and twelve months, respectively, an average of eight months and a quarter. In four cases of congenital valvular disease of the heart the average period of first eruption had been ten months and one tenth, with extremes of eight and fifteen months; hence, a very distinct delay. In eight cases of congenital syphilis, too, the first appearance of the teeth had been between the eighth and tenth months. Children affected with retarded mental development, due to chronic meningitis, meningo-encephalitis, etc., had a pronounced tendency to delayed dentition. In regard to the effect of diseases acquired during infancy on the beginning and subsequent progress of dentition, there was no doubt that rhachitis played the most important part in delaying this process. The period of eruption of the first teeth was at the age of about ten months and a half. Under the heading of scrofulosis, the cases reported had all shown a tendency toward precocity in the eruption of the first teeth, which, on the average, had emerged at the sixth month. As to the effect of chronic diseases, such as bronchitis, gastro-enteritis, whooping-cough, and malarial infection, on dentition, it had been found that the eruption of the first teeth was often delayed to the ninth month. In epilepsy and marasmus the dentition was early, and in some instances showed a tendency to precocity, the average eruption occurring at the fifth month. After having noticed the various influences retarding or hastening the process of dentition, the next important question would be, How far did this process itself tend to induce disease in the infant organism? This question had been examined into over and over again, and had been the cause of much dispute. The author thought that the influence of teething had been very much exaggerated; still he could not join the ranks of those who denied it any place whatsoever. He was satisfied that he had seen a number of cases exhibiting various symptoms, such as catarrhal stomatitis and even aphthæ, which had disappeared when the gums were lanced. As to how far brain symptoms could be attributed to dentition, it was impossible to say, as the author had been unable to trace the origin of a meningitis to the teeth. In regard to convulsions pure and simple, he could not be so positive, as he had seen a number of cases where this condition had seemed to have been brought about by the cutting of a tooth. As to the various other diseases that many observers had attributed to the process of dentition, he was unable to substantiate their statements.

Dr. J. Lewis Smith mentioned a case in which there had been a train of nervous symptoms, manifested by tonic contractions of certain muscles, and the circumstances had led to the assumption that dentition was an element of causation. A child eighteen months of age had tonic contraction of the flexors of the left leg. This had persisted, though nothing wrong could be found with the general condition of the child. It was, however, noticed that five teeth were ready to come through, and as soon as these had protruded there was prompt cessation of the nervous symptoms.

Dr. H. Berg thought that dentition was a potent factor in the causation of ailments in early life. Among these were probably convulsions and epilepsy. He believed the epilepsies of early infant life were the result of early dentition.

Dr. A. Jacobi did not agree to this view. He had never seen a case of epilepsy due to dentition. When such attacks arose in early infancy they were symptomatic of a great many diseases and abnormal conditions. Among these might be mentioned premature ossification of the fontanelles, meningitis, encephalo-meningitis, small or large hæmorrhages occurring in the first weeks of life, and asphyxiation after birth; so that there was a considerable number of causes of epilepsy in both the young and the adult.

Book Notices.

Diseases of the Digestive Organs in Infancy and Childhood. By Louis Starr, M. D., late Clinical Professor of Diseases of Children in the Hospital of the University of Pennsylvania, etc. Second Edition. Illustrated. Philadelphia: P. Blakiston, Son, & Co.

Five years have passed since the appearance of the first edition of Dr. Starr's work. The author has endeavored in this edition to bring the general subject-matter thoroughly abreast with the times. The text has been partly rearranged and some new material has been added. The most valuable additions consist of a section on alterations in the odor of the breath in disease, a section on urinary alterations, a chapter on massage in pædiatrics, and a detailed account of the second dentition and its influence on the health in late childhood. Dr. Starr's advice on the hygiene and general management of children is very sensible and practical.

Taking Cold. By Francke H. Bosworth, M. D., Professor of Diseases of the Throat in the Bellevue Hospital Medical College of New York. Detroit: George S. Davis, 1891. [Price, 25c.]

This little book contains a much greater proportionate amount of good common sense than it is usual to find. Its great importance makes it a fact to be regretted that so little is to be found in literature on this subject, and we highly commend the author for his attempts to bring it forward more prominently. Every one may not agree to all the views set forth, but they may be read and studied with profit.

Miscellany.

The Extraction of Broken Needles.—Charles Steele, M. D., F. R. C. S. says in the *Lancet* for May 9th:

"All who have had much to do with this minor operation know how frequently a satisfactory result fails to be obtained unless the indications for a safe operative procedure are strictly observed. It is most unpleasant, after cutting and probing with the finger and forceps, to be obliged to tell a patient who has endured some pain and much discomfort that further attempts are useless, and that the fragment is still there; and perhaps suggest as the best consolation that the needle has a more free opening by which to work its way out. I have for many years declined to cut unless I could make out the situation of a point, and that the other end had a firm bearing to rest upon; giving the assurance that patience and watching are the proper treatment for the time being.

"Lately I have adopted a very simple, painless, and reliable plan, and have regretted that I had not thought of it in many previous instances. Last autumn, when I was visiting a child, a young lady, his sister, came into the room using her right foot naturally, but resting only on the toes of her left foot, and explained that she had gone about in this way for fully three weeks, as she had broken a needle into her left heel, and the slightest touch gave her great pain. The point of entrance was visible in the middle line in front of the tuberosities of the os calcis; the end of the fragment could be recognized through the skin, but the slightest pressure made it recede. I declined to operate, but directed that two thick felt corn plasters, one on the other, should be applied, with the puncture occupying the central hole, and that she should walk freely and bear well upon the heel. This she did with perfect ease, and after ten days the needle presented, and was withdrawn readily. It was the eyed end, and almost an inch long. Soon after this I saw a little girl, aged three years, who when away from home in the summer had also trodden upon a needle, which broke and entered between the ends of the metatarsal and tarsal bones. A surgeon saw her promptly, cut down, and tried for some time to extract, but failed. She often felt no inconvenience, but at intervals limped suddenly and complained of pain. She was persuaded to wear a corn plaster, and after three weeks the portion of needle, which had been in more than three months, after producing a little superficial irritation, showed itself, and her nurse drew it out. The wrist and ball of the thumb are not infrequently punctured, and if the fragment enters obliquely, or lies close to arteries or nerves, and can not be forced into prominence, attempts at extraction are, to say the least, undesirable; whereas by adopting this simple method, after the manner of removing a thorn with the pipe of a key, and producing pressure with an elastic wristlet or slight steel spring like a small truss, the fragment will work out, and not give pain from any knocks while under the skin. In that awkward position, the soft parts by the sides of the ligamentum patellæ, this plan can be used. It recommends itself to every one's common sense, and has the great advantage of not leaving any cicatrix."

The Internal Use of the Simple Astringents.—In the *Boston Medical and Surgical Journal* for May 21st, Dr. M. A. Walker says:

"Pure astringents are agents which cause contraction of living tissues, especially the circulatory channels, and have no appreciable effect on the action of the heart.

"All, of course, will admit that this definition is correct, and that it represents the effect normally produced by their exhibition. So we will proceed to look a little more closely at their action on the blood-supply and their therapeutics when exhibited internally.

"The heart, as we know, under ordinary circumstances and normal conditions, contracts from seventy to eighty times each minute, each contraction completely emptying the ventricles. The capacity of the left ventricle being about five ounces, then in each minute there passes into the aorta, and consequently through the whole systemic and pulmonary circulations, from 350 to 400 ounces of blood. Now it is evident that without change either in the frequency of the heart's contractions, or its capacity, the same amount of blood will, of necessity, be forced into the aorta and through the whole body—no matter what may be the size of the aorta or smaller vessels—in the same length of time.

"On the administration of a substance which causes general constriction of the vessels without changing the amount of blood forced into them, the intravascular tension must be increased, and consequently the rapidity of the current, proportionate with the constriction. So that any vessel or series of vessels being selected for examination, it will be found that just as much blood passed through them in the same time as passed through them before such administration.

"Hence, in endeavoring to control hæmorrhage by the internal administration of the simple astringents, we only contract the vessels from which the blood is flowing, at the expense of causing a proportionate increase of tension, and consequently do not at all affect the rapidity of the loss of blood. There is, of course, a similar objection to the use of these substances in controlling inflammations.

"Therefore, do not let us use astringents, given *per os*, as any aid to the treatment of hæmoptysis, erysipelas, or any other conditions where we desire to cause a decrease of the supply of blood to the part."

The Diagnostic Significance of a Venous Hum in the Neck.—At a recent meeting of the Section in Medicine of the Royal Academy of Medicine in Ireland, Dr. Bewley read a paper on the diagnostic value of a venous hum in the neck. He said he had been induced to collect statistics bearing on this subject by reading a paper by Dr. R. Apetz, On the Significance of Venous Humming Murmurs for the Diagnosis of Anæmic Conditions, in Virchow's *Archiv*, vol. cvii. He called attention to the differences of opinion held on this subject—some writers attributing considerable diagnostic importance to the presence of a murmur; others believing the phenomenon to be one of no importance.

Dr. Bewley then related the details of his investigation. He had examined only healthy individuals; he had only examined individuals between the ages of sixteen and twenty-six, because age has a very important influence on the production of these murmurs. All the persons were examined in an upright position, either sitting or standing. He divided his cases into three classes:

1. Anæmic. 2. Slightly or doubtfully anæmic—*i. e.*, cases which presented no appearance of anæmia, but yet showing some of the symptoms of this condition, or *vice versa*. 3. Not anæmic.

He had examined in all 51 young men and 149 young women. Of these, 22 belonged to the anæmic class, 31 to the slightly anæmic, and 147 to the non-anæmic. In 22 anæmic there were 19 murmurs = 86·4 per cent. In 31 slightly anæmic there were 27 murmurs = 87·1 per cent. In 147 not anæmic there were 85 murmurs = 57·9 per cent. Dividing up the non-anæmics into male and female: In 104 females there were 64 murmurs = 61·5 per cent. In 43 males there were 21 murmurs = 48·8 per cent.

The conclusions Dr. Bewley drew from these statistics were the following: 1. Murmurs are more common in the anæmic than in the non-anæmic. 2. More than half of those young persons who are not anæmic have a venous hum in the neck. 3. The presence of a hum is not of any diagnostic importance in any individual case.

The loudness of murmurs is not a matter of much diagnostic importance. In his cases Dr. Bewley had noticed 15 very loud murmurs, distributed as follows: In 22 anæmic, 3 loud murmurs = 13·6 per cent. In 31 slightly anæmic, 5 loud murmurs = 16·1 per cent. In 147 not anæmic, 7 loud murmurs = 4·8 per cent.

He had noted some of the loudest murmurs in particularly rosy and full-blooded persons, and therefore did not attribute any diagnostic value to even the loudest murmur. He added that Dr. Apetz's conclusions, based on very elaborate statistics, were almost identical with his own.

Dr. Wallace Beatty remarked that he had, in some cases, heard cervical venous murmurs in patients who certainly did not appear anæmic. Still he had thought that the presence of this murmur might be a help in treatment. In one patient under his care, who suffered from persistent headache for months, and who had not an anæmic appearance or symptoms, the discovery of an anæmic murmur had led to treatment by the administration of iron, which brought about a rapid cure—a great number of other remedies having been previously tried in vain.

Dr. Walter Smith expressed his general concurrence with the views put forward by Dr. Bewley. Admitting as a fact that over 50 per cent. of non-anæmic subjects presented a venous hum in the neck, still we had to deal with the occurrence of venous hum in over four fifths of undoubtedly anæmic cases. Hence we should look for an explanation of this coincidence in the mode of causation of these murmurs, and the present theories as to the production of these phenomena could scarcely be regarded as satisfactory.

Mr. Patteson remarked that, if he might be permitted to make a few observations on a subject more purely within the domain of the physician, his experience corroborated that of Dr. Bewley. From the observation of a large number of patients in a general out-patient department, he had long ceased to attach any importance to the presence or absence of a venous hum from a diagnostic standpoint in cases of anæmia. It would be interesting to have a series of similar careful statistics from Dr. Bewley as to the diagnostic value in anæmia of basal cardiac murmurs of functional origin.

The president, Dr. J. M. Finny, concurred in the view expressed as to the real basis for coming to a conclusion being the physical conditions which produced such murmur, and said that until these were settled its variation must be a matter of theory. He called attention to the existence of venous murmurs under the first bone of the sternum, which, by position, was removed from the fallacies of extraneous influences. They were very much rarer in this situation than in the neck, and were, so far as he could depend upon his memory, invariably associated with some of the graver and more pronounced forms of anæmia.

Myelogenous Leucocythæmia.—At the same meeting Dr. Wallace Beatty reported a case of myelogenous leucocythæmia which had been under his care in the Adelaide Hospital in September, 1890. The patient, an unmarried woman, a dressmaker by occupation, had been in ill-health for about three months. Seventeen days before she came into the hospital she was attacked with erythema nodosum in her legs. On admission to the hospital she was very anæmic; cardiac and cervical venous anæmic murmurs were present. The sternum was exquisitely tender. Dr. Bewley examined her blood; he found the white corpuscles greatly increased in number—the proportion of white to red being 1 to 5. The red corpuscles were diminished in number, being one million to the cubic millimetre. There was no enlargement of the lymphatic glands, and the spleen could not be felt. Dr. Bewley made the post-mortem examination.

The spleen weighed ten ounces. Under the microscope it was normal, except that there was evidence of increased hæmolysis in sections stained with ferrocyanide of potassium and hydrochloric acid. There was no enlargement of the lymphatic glands. The marrow of the femur was red and fairly firm, not fatty. Under the microscope were found numbers of singly nucleated white corpuscles, large and small red corpuscles—some normal, some irregular in shape—a few nucleated, spindle-shaped, connective-tissue cells, and a few oil drops. The liver was enlarged. On microscopic examination, the liver cells were found atrophied in places, and there was a large number of leucocytes between the liver cells. There was no evidence of iron in the liver.

To Contributors and Correspondents.—*The attention of all who purpose favoring us with communications is respectfully called to the following:*

Authors of articles intended for publication under the head of "original contributions" are respectfully informed that, in accepting such articles, we always do so with the understanding that the following conditions are to be observed: (1) when a manuscript is sent to this journal, a similar manuscript or any abstract thereof must not be or have been sent to any other periodical, unless we are specially notified of the fact at the time the article is sent to us; (2) accepted articles are subject to the customary rules of editorial revision, and will be published as promptly as our other engagements will admit of—we can not engage to publish an article in any specified issue; (3) any conditions which an author wishes complied with must be distinctly stated in a communication accompanying the manuscript, and no new conditions can be considered after the manuscript has been put into the type-setters' hands. We are often constrained to decline articles which, although they may be creditable to their authors, are not suitable for publication in this journal, either because they are too long, or are loaded with tabular matter or prolix histories of cases, or deal with subjects of little interest to the medical profession at large. We can not enter into any correspondence concerning our reasons for declining an article.

All letters, whether intended for publication or not, must contain the writer's name and address, not necessarily for publication. No attention will be paid to anonymous communications. Hereafter, correspondents asking for information that we are capable of giving, and that can properly be given in this journal, will be answered by number, a private communication being previously sent to each correspondent informing him under what number the answer to his note is to be looked for. All communications not intended for publication under the author's name are treated as strictly confidential. We can not give advice to laymen as to particular cases or recommend individual practitioners.

Secretaries of medical societies will confer a favor by keeping us informed of the dates of their societies' regular meetings. Brief notifications of matters that are expected to come up at particular meetings will be inserted when they are received in time.

Newspapers and other publications containing matter which the person sending them desires to bring to our notice should be marked. Members of the profession who send us information of matters of interest to our readers will be considered as doing them and us a favor, and, if the space at our command admits of it, we shall take pleasure in inserting the substance of such communications.

All communications intended for the editor should be addressed to him in care of the publishers.

All communications relating to the business of the journal should be addressed to the publishers.

THE NEW YORK MEDICAL JOURNAL, June 6, 1891.

Original Communications.

STUDIES ON THE ACTION OF DEAD BACTERIA IN THE LIVING BODY.

By T. MITCHELL PRUDDEN, M. D.,
DIRECTOR OF THE LABORATORY OF THE ALUMNI ASSOCIATION, COLLEGE OF PHYSICIANS AND SURGEONS, NEW YORK.

First Article.—Introductory.

The researches of the past decade, bringing to light, one after another, the specific micro-organisms of some of the most common and fatal diseases, have been so surprising, so definite, so full of the promise of fruitful outlooks upon hitherto untrodden fields, that we have scarcely yet had time to recover from the glamour of the new light or to realize. in the urgency of fresh practical problems, the exact extent and bearings of the new knowledge.

For a time it seemed enough, and even more than enough, that month by month the proof grew stronger that anthrax and tuberculosis and typhoid and erysipelas and pneumonia and tetanus and diphtheria, and a whole group of allied "wound diseases" and others of the so-called "infectious" class, were always associated with certain germs, each peculiar in its life history, and each standing, as we say, in an ætiological relationship to its particular disease.

But as we have little by little become accustomed to the new light, it has become evident not only that we are still ignorant about the relationship of micro-organisms to several extremely frequent and important infectious diseases—the exanthemata, for example—but also that when we have learned that a given acute infectious disease is always associated with a particular form of germ, when the life history of that germ is made out, and we can say that it stands in an ætiological relationship to the disease, there yet remains a series of accessory problems to be solved in each particular case scarcely less important than the establishment of the invariable association of the germ with the disease.

We are just beginning fairly to realize that the disease is not an entity, a thing imparted by the invading germ to the body, but that it is the result of the reaction of the body cells in the presence of the germs; that the body-cell factor is just as important and just as much in need of study as is the germ-cell factor. We have been largely forgetful hitherto, as with painful detail the characters and preferences and metabolisms and vulnerabilities of the pathogenic germs have one by one been brought to light, that before our knowledge of the acute infectious diseases can be at all complete, the characters and preferences and metabolisms and vulnerabilities of the body cells must be subjected to an equally careful scrutiny. The *germ* side of the problem is new and fascinating; the *man* side is old, and cellular pathology is a phrase familiar to our ears. But these old problems have become fairly new in their new light, and can not too soon be taken up afresh if our knowledge of the acute infectious diseases is to be symmetrical and of lasting use.

Partly by clinical observation and partly by laboratory studies is the new knowledge of the man side of this theme to be acquired, and old clinical observations, which have lain uninterpreted or misinterpreted, and new facts which the new points of view can not fail to elicit, will surely be fast forthcoming.

But, returning to the bacterial side of the problem, it became evident, very soon after the definite status of pathogenic germs was made out, that something more than their mere presence was necessary to account for the manifestations of the acute infectious diseases.

The early discovery that certain pathogenic germs set free poisonous substances of one kind or another as the result of their life processes, and the evidence that these substances were directly accountable for many of the manifestations of the acute infectious diseases, drew attention to the complexity of the problems involved, called in the services of the physiological chemists, and for a time it seemed, and still does to many, that, after all, it was the poisons which the bacteria elaborated and sent out into the body on their destructive missions which was the most important thing. "Ptomaines" became a favorite word. When we had said that a given germ produced a given disease or effect by the elaboration of a given ptomaine, it seemed to many fairly unreasonable to ask for any further explanation of the acute infectious diseases. The germs were relegated to the more humble function of poison-factories, and the ptomaines were invested with the insignia of malevolent power. The pendulum seems disposed to swing back germward now, and in this paper, which is preliminary to the record of some experimental studies made by Dr. Hodenpyl and the writer, and shortly to follow, on the tubercle bacillus, it is my purpose briefly to review a series of recent studies on the germ-cell bodies which throw a curiously interesting new light on some old body-cell problems.

A very curious vital phenomenon which has long been known in certain unicellular organisms—such as the freshwater amœba and in the leucocytes of both the cold and warm-blooded animals—is their response by movement to contact with solid substances. Thus the amœba floating free in fluids tends to assume a spheroidal form and to remain immobile. When, however, under suitable conditions, it touches a solid surface, like that of a glass slide, it sends out pseudopodia and performs those curious progressive evolutions known as the amœboid movement. Essentially, the same series of movements is observed in leucocytes when they, under favorable conditions, come in contact with solid surfaces—such as a glass slide or the walls of the body lymph-spaces. This faculty in these primitive forms of life, consisting of a simple lump of protoplasm, is called *tactile sensibility*, and it is in virtue of this that many of the remarkable and useful evolutions of the leucocytes in the body transpire.

It was found by Pfeffer (1), a good while ago, that some of the lowly vegetable organisms endowed with locomotion —the *Flagellata*, *Bacteria*, etc.—were capable of moving toward or away from certain substances which exerted a chemical action upon them. This property he designated as *chemotaxis*, and further postulated as *positive chemotaxis* the attracting effect, and as *negative chemotaxis* the repelling effect on such organisms of the chemical substances.

Pfeffer has shown that mobile bacteria move toward nutrient substances, such as beef-tea, and Engelmann and others (2) have demonstrated their movement toward oxygen, both effects being apparently due to the positive chemotactic action of these substances. Stahl (3) showed that similar properties exist in the plasmodia of myxomycetes. This movement has been proved to be due, not to currents in the fluids, not to diffusion, but to the specific action of the particular chemical substances in question on living organisms.

The chemotactic powers of the juice of raw potatoes, which contains, as Pfeffer showed, potash salts and asparagin, has been used in capillary tubes by Ali Cohen (4) to separate mobile from immobile bacteria in mixtures. In this way he found that he could separate cholera and typhoid bacilli from the numerous other forms in fæces, and thus make easier the obtaining of pure cultures for diagnostic purposes.

Now, the same condition of affairs exists in the leucocytes of both the cold-blooded and warm-blooded animals, and the conditions and bearings in them of this positive and negative chemotaxis were studied in detail by Massart and Bordet (5) and by Gabritchevski (6) in 1890. The latter observer has grouped as the result of his experiments certain chemical substances in accordance with their action in this way upon leucocytes. Thus, in the group of substances exciting a negative—repelling—chemotaxis, we have concentrated salt solution, 10 per cent.; lactic acid; quinine, 0·5 per cent.; alcohol, 10 per cent.; chloroform; jequirity; glycerin; bile. Substances having no effect—indifferent chemotaxis—are distilled water; dilute salt solution, 0·1 to 1 per cent.; carbolic acid, 1-per-cent. solution; antipyrine; glycogen; peptone; beef-tea; blood; aqueous humor. Among the most prominent substances exciting a positive chemotaxis are especially sterilized and non-sterilized cultures of various pathogenic and non-pathogenic bacteria.

The general method of testing the powers of these various substances is to fill small capillary glass tubes, closed at one end, with the substance to be tested, and to thrust these beneath the skin of an animal. After a few hours these tubes are withdrawn and their contents examined. Into tubes filled with substances inciting positive chemotaxis the leucocytes crowd in great numbers, while they are held away from tubes having negative chemotactic contents, and when filled with indifferent substances there is no effect at all. While the tactile sensibility of leucocytes may cause them to cluster in small numbers about the surface of the glass tubes, the effect of this property in the leucocytes is altogether insignificant as compared with the chemical substance exciting positive chemotaxis.

It appears, then, that there are certain substances associated with bacteria which excite in the leucocytes a movement toward the germs. The culture medium itself has no such effect, but the action is developed equally whether the cultures be living or have been killed by boiling. It would thus appear that either the bacteria themselves or some result of their life and growth must be the exciting agency.

Under the dominant views regarding the significance of the various chemical substances set free by bacteria as they grow, it has been assumed that it was largely under the exciting influence of the ptomaines that leucocytes exhibited the phenomena of chemotaxis in the presence of bacteria. A practical bearing was given to the subject, under the influence of this view, by the assumption that in the process of suppuration, as commonly induced by various species of bacteria, the leucocytes gathering at the inflammatory foci were drawn thither in virtue of their chemotactic properties which the metabolic bacterial poisons brought into play. To this view the doctrine of phagocytosis, as held by Metschnikoff and his adherents, readily attached itself, and we had a well-rounded hypothesis, in accordance with which the leucocytes, drawn, in virtue of their chemotaxis, into the vicinity of invading bacteria, at once set to work to destroy them, and with them the poison sources which were stimulating excessive cell inroads.

But while these observations were going on, an allied but quite independent series of experiments was being carried out by Buchner and his associates in Munich, which have thrown a new and apparently most significant light upon both the phenomena of chemotaxis and the nature of suppuration. To these experiments let us then briefly turn.

While it is fully established that a true suppurative inflammation may be experimentally induced by a variety of inorganic substances, it is still true that the suppurative processes which occur in the body, either as independent lesions or as complications of a variety of diseases, are practically always due to the action of bacteria. So that in a clinical sense the summary statement, "no suppuration without bacteria," is true. While, as above indicated, it has been the general belief of late that the metabolic products of bacterial life, the "ptomaines" or the "toxines," were the active agents in inducing suppuration, this, save in a few instances, has not been proved.

Buchner (7), in the course of some experiments on the introduction of anthrax spores and anthrax bacilli into the trachea of rabbits and guinea-pigs, had observed some time ago that while the introduction of the bacilli was followed by an intense inflammatory reaction of the lung tissue, with accumulation of leucocytes, fibrin, etc., in the air spaces, the introduction of the spores alone was followed by no such marked inflammatory reaction, but that the spores entered the blood channels and induced, in due time, the usual systemic effects of anthrax poisoning.

There is one factor—so reasoned Buchner—which has not been taken definitely into the account in the causation of suppurative inflammation by bacteria, and that is the possibility that the effect may be produced, not by the ptomaines, not by the toxines already so much studied, but by the albuminoid constituents of the bacterial cells themselves. If this were true, then the intense exudative inflammation in the lungs following the introduction of the anthrax bacilli might be explained by the local disintegration of the bacilli and the setting free of their potent proteid constituents, while no such effect would follow the introduction of spores.

It has been repeatedly shown by numerous observers (8) that sterilized cultures of various pyogenic bacteria—such as *Staphylococcus pyogenes aureus*, *Bacillus pyocyaneus*, etc.—were as capable of producing suppuration as were the fresh living cultures. But it was believed that this was due to the retention of a toxic substance furnished by the life processes of the germ which had not been destroyed by the sterilization, but clung about the dead germ bodies. Although Wyosokowitsch had filtered off the fluid from sterilized anthrax cultures and found that the filtrate was not pyogenic, while the solid material was, he inferred only that the toxic material assumed to cause suppuration was not soluble in the nutrient fluid.

Buchner had also shown (9), in the course of some other experiments, that the sterilized emulsion of the so-called pneumo-bacillus of Friedlander, subcutaneously injected, could cause suppuration in rabbits and guinea-pigs. He found further that if such a sterilized emulsion were allowed to stand for some time, so that the solid could be separated from the fluid parts of the mass, the fluid part did not cause suppuration, while the solid part did. That the effect of such sterilized bacterial emulsions was not due to their mechanical effects in the tissues was shown by such control experiments as the introduction of powdered charcoal, infusorial earth, magnesia, potato emulsion, etc., beneath the skin, with negative results.

By a series of manipulations similar to that practiced with the pneumo-bacillus, Buchner now tested the effect of sterilized emulsions of cultures of seventeen different species of bacteria, among which may be mentioned *Staphylococcus pyogenes aureus*, *Staphylococcus cereus flavus*, *Sarcina aurantiaca*, *Bacillus prodigiosus*, *Bacillus fitzianus*, *Bacillus cyanogenus*, *Bacillus megatherium*, *Bacillus subtilis*, *Bacillus coli communis*, *Bacillus acidi lactici*, *Bacillus anthracis*, *Proteus vulgaris*, Finkler's comma bacillus, etc. The injection of one cubic centimetre of the sterilized emulsions of each of these germs resulted within two to three days in an aseptic—that is, bacteria-free—purulent infiltration in the subcutaneous tissue at the seat of injection. On the other hand, the clear fluid obtained by sedimentation from the sterilized emulsions of *Bacillus cyanogenus*, *Bacillus megatherium*, and *Bacillus anthracis*, induced no suppuration, while the separated sediment invariably did.

While it thus seemed probable that the albuminous material of the bacterial cell was at least chiefly concerned in inducing suppuration on the injection of sterilized emulsions, this was not yet fairly proved. Buchner now sought to strengthen the evidence by a very ingenious experiment. The modern technique of staining bacteria with the aniline dyes depends, as is well known, upon the power of these dyes to enter into chemical combination with the bacterial cell plasma. Acting upon this principle, Buchner found that if he added to a sterilized emulsion of the pneumo-bacillus, which was strongly pyogenic, an aqueous solution of methyl violet, the emulsion was wholly bereft of its pyogenic powers. Anent of this interesting bit of evidence of the importance of the bacterial cell proteids, Buchner calls attention to its bearing upon the theory of the antiseptic and antipyogenic action of the so-called pyoktanin of Stilling, the usefulness of which in practice is still *sub judice*.

But more definite proof of the importance of the bacterio-protein in inducing suppuration was still needed, and Buchner proceeded to separate it from cultures of the pneumo-bacillus after the method of Necki, by digestion of masses of culture in dilute potash and precipitation with acetic or hydrochloric acid. The precipitate separated by filtration was again dissolved in dilute potash solution and reprecipitated. This was done the third time, and at last the purified product was brought into solution. This material gave the chemical reaction of an albuminoid body. Subcutaneous injection of this material in rabbits in some cases was followed by a gathering of leucocytes, in others not. As it seemed likely that on simple subcutaneous injection the material was readily and rapidly absorbed before it produced local effects, recourse was had to a method of experiment used by Councilman in his well-known studies on suppuration (10). Small glass tubes, drawn out at the ends, were filled with the pneumo-bacillus protein, sealed up, and sterilized by steam for an hour. These were then introduced, with strict antiseptic precautions, beneath the skin of rabbits, shoved away from the opening, and, after they were healed in, their tips were broken off. After five days the tubes were exposed. Around the openings of these, as well as extending deep into their interior, were masses and plugs of leucocytes. Cultures showed no living bacteria. Control experiments with tubes filled with salt solution showed no collection of leucocytes.

It thus seemed to be proved that the pyogenic action of sterilized cultures of Friedlander's pneumo-bacillus is due to the freed albuminoid constituents of the bacterial cell. That such a freeing of the contents of the bacterial cells occurs in the tissues of the living body seems evident from their well-known proneness to disintegration and the development of involution forms in suppurative foci.

The next thing to be done was to carry on a similar series of experiments with other well-known pathogenic bacteria. To this task Buchner and his associates addressed themselves in a series of studies as yet not fully published (11). But, even so far as their results are known, some most significant facts have been elicited. Buchner endeavored to separate by the method of Necki (see above) the bacterio-protein from about fifteen species of bacteria, but in many of these the attempt was unsuccessful, because sufficient solution and extraction of the proteid ingredients of the germs did not occur. The *Bacillus pyocyaneus* gave the most abundant albuminous extract, but a sufficient amount was obtained from *Staphylococcus pyogenes aureus*, *Bacillus typhosus*, *Bacillus subtilis*, *Bacillus acidi lactici*, and from the red potato bacillus for animal experiment. It was, in fact, found that capillary tubes filled with the purified proteids from all these species of bacteria and placed beneath the skin of the rabbit showed after two or three days, extending into the open end, a plug of fibrinous pus several millimetres in length. This plug was found, on microscopical examination, to consist largely of leucocytes.

That the ordinary chemical decomposition products of bacterial cell life are not concerned in inducing this positive chemotaxis in the leucocytes was shown by introducing beneath the skin of rabbits tubes filled with such substances as butyrate and valerianate of ammonia, trimethylamin, ammonia, glycocoll, leucin, tyrosin, urea, etc. These were, for the most part, wholly without effect upon the leucocytes, only glycocoll and leucin exciting in some cases a moderate chemotaxis, not at all to be compared, however, with that of the bacterio-proteins.

It would thus seem to be highly probable, if not absolutely proved, that the power of exciting positive chemotaxis, which at least many species of bacteria display, is due to the proteid ingredients of their bodies when these are set free, as they may be naturally when the germs disintegrate in the tissues, or artificially by chemical extraction.

With that keenness and fertility of thought which characterizes Buchner's work, he now gave wider range to his investigation. He recognized the fact that, though of late the phagocytic action of the leucocytes has been especially emphasized in relation to bacteria, this is by no means their chiefest or most constant rôle. Dispose of bacteria the leucocytes undoubtedly do; whether after themselves killing them, or after they are destroyed by other agencies, has not yet been fully determined. But by far the most constant phagocytic rôle of the leucocytes is in carrying on the process of resorption and disposal of useless particles and dead material in the living body. About such material they gather much as they do in the vicinity of bacteria, though not in such marked degree or under such dramatic conditions.

Now, what attracts the leucocytes into the vicinity of a particle of dead and useless muscle, or cartilage, or connective tissue which they are to absorb and remove? Certainly not bacterial poison, certainly not bacterial proteids, for with what may be called the normal phagocytic functions of the leucocytes bacteria have nothing to do. Having shown that a proteid substance derived from the bacterial cells was capable through chemotaxis of attracting leucocytes, Buchner now studied in a similar way the effects of closely allied substances—namely, the so-called vegetable caseins, gluten casein from wheat and legumin from peas, both separated by precipitation from alkaline solutions. Both of these substances were capable of exciting the most marked chemotaxis in the leucocytes of rabbits. Moreover, as it has been shown that vegetable casein exists as such in the grain of cereals and of the leguminosæ, he introduced beneath the skin of rabbits or guinea-pigs, under strict antiseptic precautions, masses of wheat and pea meal, and found that within two days these masses were surrounded and penetrated by enormous masses of leucocytes. Cultures from these masses proved the entire absence of bacteria. Starch introduced subcutaneously under the same conditions induced no gathering of leucocytes.

That this gathering of leucocytes was due to chemotaxis and not simply mechanical, owing to the tactile sensibility of the leucocytes, was shown by introducing subcutaneously in a rabbit in one place an emulsion of infusorial earth with 0·7-per-cent. salt solution, and in another place an emulsion of the earth with glutin casein. In the first, after three days, but few leucocytes had gathered about the foreign material, while the second was surrounded and partially penetrated by an enormous number of leucocytes.

But still another step remained to be taken. As the gathering of leucocytes about dead organic fragments in the tissues which are to be removed, as so often happens, can not be ordinarily due to bacteria or bacterio-protein, so, also, interesting as the observation may be, can vegetable proteins have no part in the matter. So alkali albuminates were prepared and purified, in a manner similar to that employed with the bacterial and other vegetable proteins from muscle, liver, lungs, and kidney of rabbits. These tested in the same way were all found to strongly attract leucocytes when introduced beneath the skin in tubes. Of the alkali albuminates prepared from blood, fibrin, yolk and white of egg, only the blood and yolk of egg showed moderate power of exciting positive chemotaxis.

These experiments show that it is only certain of the decomposition products of animal tissue which possess chemotactic powers, and that these, as a rule, are the earlier and not the ultimate products of the decomposition.

Finally, as it has been shown that a general leucocytosis is apt to be associated with febrile inflammatory processes, Buchner and Roemer studied the effects of intravenous injections in rabbits of these various chemotactic proteids. They found that within eight hours of their introduction into the blood there was a marked leucocytosis lasting for several hours, and that this might be heightened by repeated injections. Thus they found, by a daily injection of 2 c. c. of an eight-per-cent. solution of the bacterio-proteins of *Bacillus pyocyaneus*, the relation of white to red blood-cells, which at first was 1 to 318, was on the second day 1 to 126; on the third day, 1 to 102; on the fourth morning, 1 to 73; and on the same evening, 1 to 38. From this time on no increase was noted. The absolute number of the red blood-cells remained unchanged, while there was an absolute sevenfold increase in the number of leucocytes. Gluten casein, as well as alkali albuminate from muscle, injected into the blood, showed similar but less pronounced effects.

Considering now the bearing of all these experiments on suppuration and on physiological resorption of dead organic materials in the tissues, it would appear that in simple resorption, as in bacterial suppuration, the leucocytes are drawn to the seat of operation by a proteid material. This in resorption seems to be furnished by the dead and disintegrating tissues themselves, and when the leucocytes have gathered up a certain amount of refuse in their bodies they may carry it away. In bacterial suppuration, on the other hand, the attracting material may be furnished by the protein of the disintegrating bodies of the bacteria themselves, but poisonous ptomaines furnished by the live bacteria may cause the destruction and degeneration of the attracted leucocytes, which thus collect as pus.

Whether the ptomaines themselves may not indirectly furnish chemotactic material by causing the destruction of the tissue elements and the setting free of their albuminous constituents, is a matter requiring further study.

It is also not improbable that the limited suppuration induced by bacteria-free chemical substances—such as turpentine, calomel, etc.—may be due to the chemotactic tissue-proteids set free by the action of the chemicals on these tissues.

It seems probable that not only are the leucocytes drawn toward the chemotactic proteids thus produced in or introduced into the body, but that the fixed connective-tissue cells are stimulated to proliferation. In fact, Buchner found that by the introduction of a sterilized emulsion containing 3·5 milligrammes of pyocyaneus protein into the forearm of one of his associates, a severe inflammation was induced with all the symptoms of an acute typical erysipelas, with lymphangeitis, such as must have involved the fixed connective-tissue cells. On the fourth day the inflammatory process underwent resolution. Gluten casein induced similar but less acute effects.

These most clever and striking researches of Buchner would seem to throw much light on the whole subject of the theory of suppuration, and to promise large accessions to our knowledge of inflammation when the many lines of thought and study which they suggest shall have been followed out.

It is now evident that an *aseptic suppuration* is possible under a variety of conditions.

It still remains true, however, for the purposes of surgical practice, that the suppurative processes as we see them in the clinic and at the bedside are due to the presence of bacteria of one form or another. It is true, also, that the suppurations which we can induce experimentally with sterilized—that is, dead—bacterial cultures, or with certain dead proteid substances—aseptic suppurations—are limited in their duration, extent, and destructive power, as compared with those occurring under the influence of living germs. This is because in the latter case the growing and new forming germs may keep up the inflammation once alight to an almost indefinite extent.

We purpose, in the paper which is to follow, to detail some results of a series of experiments on the action of dead tubercle bacilli on the living tissue not less striking than are those which show the power of other sterilized bacteria to induce suppuration.

Bibliography.

1. Pfeffer. *Unters. a. d. botanischen Institut zu Tübingen*, 1886–1888.
2. Engelmann. *Bot. Zeitg.*, 1881. Prudden. *Medical Record*, March 26, April 2, 1887.
3. Stahl. Zur Biologie der Myxomyceten. *Bot. Zeitg.*, 1884.
4. Ali Cohen. *Ctrlbl. für Bakteriologie*, Bd. viii, 1890, No. 6, p. 165.
5. Massart and Bordet. *Journal publié par la soc. royale des sciences médicales et naturelles de Bruxelles*, 1890, v.
6. Gabritchevski. *Annales de l'inst. Pasteur*, June 25, 1890.
7. Buchner. *Berl. klin. Woch.*, 1890, No. 30, p. 673.
8. Buchner. *Op. cit.*, p. 674.
9. Buchner. *Berl. klin. Woch.*, 1890, No. 10.
10. Councilman. Virchow's *Archiv*, Bd. 92, 1883.
11. Buchner. *Berl. klin. Woch.*, 1890, No. 47.

IS THE CAUSE OF RESPIRATION

THE VENOSITY OF THE BLOOD AND TISSUE FLUID IN THE RESPIRATORY CENTER OF THE MEDULLA OBLONGATA?

By W. Y. COWL, M.D.

In the issue of this Journal for November 22d last, in an article entitled Some Remarks on my Hypothesis of the Self-regulation of the Respiration and Dr. Cowl's Discussion of it, Dr. S. J. Meltzer asks my attention to the subject of the causation of respiration in the question hereafter following.

To this, by reason of the directness of the query, I desire briefly to respond, while at the same time expressing my satisfaction that he has not felt called upon to controvert the cogency of the facts I have adduced [*] to show the irrelevancy of the experimental results brought forward by him as a basis for his theory of the incitation of inspiration,[†] as well as the groundlessness of his criticism upon the existing theory of respiratory regulation, formulated and established by Gad.[‡]

He asks, in general terms: "Does Dr. Cowl know of any experiment which shows that the blood, and that alone, is the exciting cause of respiration?"

For putting this question the author gives no grounds beyond a mere reference to my citation of a number of observers, who have shown the high sensitiveness of the respiratory center to changes in the constituents of the blood, and does not advert to those portions of my communication respecting the causation of respiration, or allude, except in two instances, to the published labors of the chief workers on this subject.

As, furthermore, he does not specify, on the one hand, whether he means simply the ordinary continuous respiration or also extraordinary respiratory efforts thereupon imposed, and, on the other hand, excludes from consideration the tissue fluids, which, from their constant renewal by the blood as well as because of the free diffusion of the gases dissolved therein to and from the vessels, are equally to be regarded (11), I can not assume to understand his meaning.

But, although this vagueness of his interrogation would call for explanation, I shall, rather than give rise to further disquisition, simply amplify in the required direction the basis of fact that I have previously given, and show the support which those facts are widely conceded to furnish for the essential causation of respiration by the excitants of the blood, by those substances, namely, which when increased in amount occasion increased respiration. This is of itself, at the present time, no ungrateful task, as the knowledge of the subject already established has, within the past few years, received a decided enrichment, which is not yet become common property.

In view of this enrichment, it may be said in advance, in respect of the known facts concerning the innervation of respiration altogether, that they solve, on the one hand, the problem of how it is that the first inspiration at birth comes to take place, and furnish, on the other, positive knowledge of the only means as yet demonstrated for the continuous incitation of respiration. By them, furthermore, the idea enunciated by Marshall Hall (1) that respiration was a reflex act wherein the incitation flowed to the respiratory center * from the brain, from the vagus, or from the sensory nerves in general, an idea which, notwithstanding a mass of experimentation directed toward its proof in these several respects, has at no time been shown to account in either of these ways for more than extraordinary respiratory efforts—*e. g.*, sighing, coughing, sneezing, anxious breathing—is now very definitely settled in the negative.

---

[*] The Factors of the Respiratory Rhythm and the Regulation of Respiration. This journal, Sept. 6, 1890.

[†] On the Self-regulation of Respiration. This journal, Jan. 18, 1890.

[‡] Die Regulirung der normalen Athmung. Du Bois-Reymond's *Archiv*, 1880, p. 1.

The theory of the peripheral origin of the incitation to respiration in general, of which Dr. Meltzer, in his former article, is the last exponent, would, by reason of its lack of support, have probably long since become disregarded were it not that it was broached in the first pretentious work upon this subject, and that it is a matter which is so apparent to the eye that the common extraordinary respiratory efforts result reflexly from sensorial impressions.

The first of the researches, which go to show that the incitation of inspiration is central and direct, and not peripheral and reflex, is that of Schwartz (2), entitled *Premature Respiratory Efforts; a Contribution to the Effect of the Act of Birth upon the Fœtus*, published in 1858, and noticed by Miescher (3) in the general article on the innervation of respiration contained in Du Bois-Reymond's *Archiv* for 1885 and cited in my previous communication. It is there stated that, "as the hinge upon which the existing view respecting the cause of the respiratory motions depends, the continually recurring question has been regarded, how, over against the quietude of uterine existence, does the first breath drawn come to take place? Is it the sensorial excitations of the act of birth, the cooling, the mechanical measures, by the fit application of which the halting respiration of the half-asphyxiated child is so beneficently aided, or does there lie something at bottom in the blood of the fœtus which is changed by the act of birth?

"It is the same contradistinction which from the beginning until to-day permeates all discussions upon the respiratory movements, and, although the controversies are to-day more complicated than before, they are so, however, because various changes in the blood and various sensorial influences strive, as it were, for the governing place, or at least for a part of the territory.

"In view of so many apt statements of the older theories of respiration as exist, it will suffice for our object if we devote our discussion to the turning-point which the question of the origin of the first respiration passed by in the renowned work of Schwartz in 1858.

"Since Schwartz developed, more logically than had before been done, the idea that the premature respiratory movements of the fœtus, so feared in difficult labors, were always to be referred to some disturbance of the placental circulation—to cessation, therefore, of gaseous interchange between mother and child—this same mode of view has determined the conception of ordinary respiration, and this has been clearly formulated and established in part through new researches by Rosenthal."

A second well-recognized work, by B. S. Schultze (4), which supports Schwartz's position, entitled *Apparent Lifelessness in the New-born*, is, like that of Schwartz, unfortunately, not at my command.

Within the past few years, however, two more complete experimental confirmations of the same idea have appeared. First, Zuntz and Cohnstein (5), in Some Further Researches on the Physiology of the Mammalian Fœtus, in treating of the causes of the normal apnœa* of the fœtus and of the first respiratory efforts of the new-born, record the following experiment upon the sheep, in which animal the placental tufts are so distributed about the walls of an unusually lax uterus that the opening of the latter and the extraction of the fœtus cause no interference necessarily with the placental circulation:

> The research in question was made on February 2, 1885. At first only the tail and a fraction of the fore part of the trunk were exposed to the air.
>
> Pinching, pricking, excitation of the pharynx and of the mucous membrane of the nose incited no inspiration.
>
> Upon this, the animal was entirely extracted from the uterus and laid upon the abdomen of the mother, with careful avoidance of all traction upon the cord. Excitations now continued for several minutes, to which we added injection of air into the nose with a bellows, also produced no respiratory movement. The excitations mentioned induced numerous motor reflexes. The new-born animal sucked the finger and bit it when introduced deeper into the throat. Reflex motions did not regularly follow the excitations, but, on the other hand, there appeared frequent strong, spontaneous movements, which occasioned changes of position of the fœtus. The mucous membranes showed a normal red hue; no trace of cyanosis.
>
> The first breath drawn followed almost immediately upon a ligation of the umbilical cord, and was succeeded by regular respiratory movements without any rattling. The fœtus continued to live. That it was full grown is proved by the weight of 2,860 grammes, the length of 48 centimetres, the development of the wool, and the energetic ingestion of nourishment.
>
> It took at the first drink, about an hour after the tying of the cord, 60 grammes of milk.
>
> We had therefore a normally apnœic fœtus under our hands, which was brought to breathe by no kind of excitation, but at once by cutting off the supply of oxygenated blood through the umbilical cord.

The authors note, in connection with this experiment, a source of deception which, in common with B. S. Schultze, they find in the usual means of inferring an absence of increase in the venosity of the blood actually furnished to the tissues of the fœtus (*i. e.*, mixed blood already considerably venous)—namely, by the brightness of color of the umbilical vein—for, as they very fully show, whenever the fœtal circulation is slowed, whether in the fœtus itself, as by an infrequency of the heart's action, or by compression of the umbilical vessels, the blood remains a longer time in the tufts of the placenta than otherwise, and therefore becomes more completely arterialized and of a brighter hue.

---

* The commonly so denominated mechanism for the innervation of the respiratory efforts located in the medulla oblongata, and in general indispensable to respiration.

* Temporary absence of intermittent respiratory effort.

Thus, just when the blood in the umbilical vein, from its longer sojourn in the placenta, is more highly arterialized than normally, the tissues of the fœtus—its respiratory center therefore—are, nevertheless, suffering from a lack of arterial blood, a lack which affects both the quantity and quality of its supply; dyspnœa will, therefore, necessarily be developed, the same as by a slowing of the cerebral circulation in the grown animal (6).

O. Engström (7) has carried out in Preyer's laboratory a similar series of researches upon rabbits and guinea-pigs, and in part by opening the uterus under warm salt water. He finds, like the above-mentioned authors, that mechanical irritation of the fœtus alone will not induce respiration, but that stoppage or diminution of the placental circulation without such irritation will do so. He ascribes, nevertheless, to sensorial impressions a part in the excitation of the first breath drawn by the fœtus in general.

From the evidence, then, altogether, respecting the incitation of respiration at birth, we are justified in the statement that the essential cause of the first respiratory effort is the increased venosity of the blood supplied to the respiratory center of the fœtus.

That at many human births the fœtus does not respire until marked sensorial impressions be made upon it might, in view of the practice of delaying the ligation of the cord until respiration is established, be ascribed to a greater or lesser continuance of the placental respiration. How considerable, at any moment after normal birth, this latter respiration in general may be, we have as yet no accredited data for determining. Doubtless, whenever the uterus, freed from the bulk of the fœtus and the resistance to its birth, continues in contraction, the placental respiration must have ceased or have become much diminished, whereupon, by the direct resulting effect upon the respiratory center, and possibly also by the sense of cold to the surface, a respiratory effort, if nothing be there to hinder, will at once be induced. When, on the other hand, there are, after birth, intervals of non-contraction of the uterus, placental respiration may still continue and be sufficient for the needs of the fœtus.

The escape of blood of a markedly venous hue from the placental stump of the umbilical cord upon cutting it, after aerial respiration has begun, has evidently no certain bearing upon the question of persistence of placental circulation before this time, and may therefore be disregarded.

Those infrequent cases in which the cord is cut before respiration is established, chiefly in order to more effectively carry out measures of artificial respiration, are certainly in general, if not always, abnormal. A cause of halting respiration is obviously present, which is greater in its hindering effect than the increased venosity of the blood from the cessation of the placental functions, together with the peripheral excitations incident to birth, are in their incitatory action. This cause—the respiratory passages and other parts being normal—must be an abnormally diminished excitability of the respiratory center, and this may be explained by a previous prolonged diminution or cessation of the oxygen supply upon which the excitability of the center depends. A slight diminution in that supply in the fœtus must prevent respiration by allowing the excitability to sink below the point of effective excitation by the excitants offered to it by the blood and tissue fluid.

That the center normally possesses a markedly lesser degree of excitability in the fœtus than in the breathing animal has been rendered in the highest degree probable by Zuntz and Cohnstein (5); for, upon adding one per cent. of carbonic acid, as an excitant of increased respiration, to the respired air, at intervals for several days after birth, they found a continuous increase in the excitability of the center—an increase which they attribute to development of the same. As effective causes of such development of the center, there are the beginning of its function and the marked increase in the arterialization of the blood furnished to it upon the separation of the systemic and pulmonary circulations at birth; moreover, the blood of the umbilical vein itself can not necessarily be so well arterialized as the blood in the arteries of the self-respiring animal, which is shown, under normal circumstances, by the fact that, as previously stated, the vein grows of a brighter red when compressed.

But this increased arterialization after aerial respiration is established coincides with increasing tissue activity generally; for Zuntz and Cohnstein (5) find that the differences between the respective amounts of carbonic acid on the one hand and of oxygen on the other in the blood of the umbilical vein and artery are, in each case, but about one half the difference between the same in the carotid artery and jugular vein, respectively, of the breathing animal. In estimating, furthermore, the actual consumption of oxygen by the tissues of the fœtus, a determination of the normal amounts of blood delivered to them in a unit of time enabled these observers to make a comparison between the fœtus and the grown animal, whereby it was found that the latter consumed about four times as much oxygen as the former. These observations showing a lesser consumption of blood in general before birth explain the low excitability of the fœtal respiratory center.

A diminution of the excitability of the respiratory center has been shown by Gad (6) to result, in the grown animal, from a diminished supply of arterial blood to that center. Similarly, upon the normally lower excitability of the respiratory center existing in the fœtus, a diminution may, furthermore, be imposed by conditions surrounding it for a time before birth attending the contraction of the uterus.

This contraction acts, first, by lessening the placental respiration through hindrance of the maternal placental circulation and through slowing of the circulation in the fœtus by slowing of its heart's action; secondly, in cases of head presentation, by directly diminishing the intracranial circulation. When the uterine contraction is quite persistent, as often occurs in these latter cases, the consequent diminution of excitability in the respiratory center may be greater than the increase in the normal excitants of the blood resulting from the diminution of the placental respiration can compensate for; for, while the cranial pressure directly occasions an additional diminution of the excitability of the center, it does not, like the interference with the placental respiration, occasion corresponding increase of the respiratory excitants in the fœtal blood at large, but rather, indeed, by inhibiting muscular action, diminishes their production. Its direct influence remains, moreover, a superposed one when we take into account the fact that such pressure alone as found by Zuntz and Cohnstein will effect a slowing of the pulse and a slowing of the fœtal circulation, as evidenced by an increased brightness of color of the umbilical vein.

It is altogether, then, easy to perceive how, notwithstanding a ligation or section of the umbilical cord, a fœtus may not breathe. The greater frequency, moreover, of such a condition of non-respiration in a viable fœtus in man than in the lower animals coincides with the relatively larger size of the head in him. He has special need, therefore, of the accessory provisions for the incitation of the first inspiration furnished by nature, such as the response to the impression of cold or of flagellation. The action of these latter may evidently be either by reflex incitation of the center, or by increasing, more or less indirectly, through the general excitement, the excitability of the respiratory center to the normal direct excitants; in the former case they are immediately causative, in the latter evidently only conditional of respiration.

Cognizant of the extraordinary conditions at birth, that by exaggeration call at times for the marked action of the accessory provisions for the incitation of respiration in order to occasion the first inspiration; but, in view of the decisive fact that the hæmic excitants of respiration are normally of themselves sufficient to occasion that effort, and that, despite the pulmonary arterialization of the blood, venous elements to a considerable amount still remain within it, we have the strongest possible presumption that the succeeding respirations—namely, the regular respiratory muscular action — are likewise incited through the venosity of the blood and tissue fluid contained within the respiratory center.

The further support for this position is contained in the proof of the great sensitiveness of the respiratory center in the more developed animal to changes in the constituents of the blood, and in a certain definite provision which has been shown to exist for the incitation of increased respiration, and to be directly due to increased tissue change within the organism (11).

Since the experiments of Traube, who held that the vagus was excited by the carbonic acid of the venous blood in the lungs (10), it has been known that the respiration of air containing this gas would evoke dyspnœa, and it has been shown in man by Miescher (3) that an addition of but one per cent. of this gas to the air respired results in a decided increase in the amount of air breathed, even without the knowledge of the subject of experiment. Traube's idea has gradually been given up, and it is now found by A. Loewy (8) that the same amount of increase in respiration on breathing air vitiated with carbonic acid occurs when in the animal the vagi are divided as when they are intact. From this it is most probable that such an increase of respiratory effort in man is not owing to excitation of the vagus by the venous blood or its carbonic acid in the lungs.

Very recent researches by Gad (9) concerning the deep inspirations which have been immediately induced by an inhalation of pure carbonic acid, or a strong admixture thereof with air, show that this excitative action of carbonic acid is confined to the trachea and chief bronchi—parts not in contact with the venous blood laden with carbonic acid; and also that an atmosphere containing at least fifty per cent. of the gas is necessary to produce the reflex, a proportion greater than occurs even in the exhaled air from an almost asphyxiated animal. It is therefore clear that this excitant of respiration does not normally act by means of the vagus nerve. That, on the other hand, it does not first act upon the brain, and from thence reflexly upon the respiratory center of the medulla oblongata, but directly upon the latter, is rendered most probable by the observation of A. Loewy (8), that a like amount of increase of respiration upon adding a certain amount of carbonic acid to the respired air occurs before and after separating these nervous masses.

Thus Marshall Hall's first two alternatives are excluded; the third, that sensorial impressions occasion respiration, which was developed by Volkmann into the theory that the incitation to respiration lies simply in the excitation by carbonic acid of the sensory nerves in general, may be considered to be excluded, first, for respiration as a whole, by the experiment of Rosenthal (13), in which rhythmic respiration continued after all but a few of the sensory paths to the medulla oblongata were divided, an experiment that has since been repeated with greater completeness and the same result; and, secondly, for the proportionment of the amount of respiration to the needs of the organism, through the researches of Zuntz and Geppert (11). The latter found, by measuring the air respired, together with the amounts of oxygen consumed and of carbonic acid given off, by an animal under three different conditions—namely, of rest, of accustomed labor, and of muscular activity induced after section of the spinal cord above the origin of the sciatic nerves by electrical excitation of these in their course—that, with the same increase of the respiratory interchange of oxygen and carbonic acid, denoting the same degree of muscular activity in the third as in the second case, the amounts of air respired were also the same, or nearly the same, in these latter cases.

Furthermore, upon cutting off the circulation in the active parts during the muscular excitation in the third case, the increase in respiration over that at rest failed to appear, and only did so when the vessels were let free, whereby the carbonic acid and other substances formed in the muscles during their activity came into the general circulation and thus reached the medulla oblongata.

Similar results have been obtained also by A. Loewy (8) in researches in which the brain was separated from the medulla oblongata, the spinal cord bisected in the mid-dorsal region, and the vagi divided.

It is evident from the foregoing, altogether, that the increased respiration during muscular activity was due to the venosity of the blood circulating in the respiratory center, and not to that in the tissues in general, nor to any sensorial impressions.

It is, moreover, plain from these experiments that a provision exists in the substances formed by muscular activity by which the amount of respiratory effort is directly governed at the respiratory center. That such a proportionment of the amount of air breathed to the need for it is in play, not only during pronounced muscular exertion, but also in that condition we denominate rest—a condition in which, when the skeletal muscular system is relatively quite relaxed, the main activities of the organism are the muscular contractions concerned in circulation, respiration, and the general production of heat (Fick, Pflüger)—is highly probable; is, indeed, tacitly assumed by Zuntz and Geppert. But, if this is so, it affords a further support of the accepted view that the venosity of the blood and tissue fluid in contact or proximity with the substance of the respiratory center regulates the amount of respiration, which must then, in the existing absence of proof of other means of constant incitation of respiration, be considered to afford that continuous incitation altogether. We therefore consider it so, and might indeed refuse to entertain speculation as to whether sensorial impressions may in any way be concerned in this regulation, but a possibility seems nevertheless to exist that ordinary respiration is somewhat greater in amount than it otherwise would be by reason of a constant effect upon the respiratory center produced by sensorial impressions heightening its excitability to the normal direct excitants. This is, *a priori*, improbable, as the amount of respiration would then depend, not upon the needs of the organism as determined by tissue change, but upon the amount of nervous action present, which might or might not coincide therewith; again, supposing that efficient respiratory action was insufficient by reason of a failure of its help, it would add at least unnecessarily to the mechanism. But, beyond this, there is direct evidence to the contrary, namely, the observation by Loewy (12), that sleep both natural and artificially induced—*e. g.*, by chloral hydrate—does not alter the excitability of the respiratory center, while greatly reducing the amount of respiration through diminished formation of the normal direct excitants in the tissues in general.

That, in general, under extraordinary circumstances, the respiration may be increased by sensorial impressions needs no exemplification; but a continuance of such increase after the first breath or two is to be attributed to increased muscular or other activity induced by the same nervous impressions.

We are altogether, therefore, restricted to the venosity of the blood as the essential cause of the ordinary normal continuous respiration.

The one factor of this venosity which is positively known to be an excitant of the respiratory center is, as previously stated, carbonic acid. Of the others, a diminished alkalescence of the blood, occasioned by the formation of a more active acid than carbonic (lactic) in the muscles during their activity, is known (14) to diminish the receptivity of the blood for carbonic acid, thus effecting an increase of the latter in the tissues.

Lack of oxygen in the blood furnished to the medulla oblongata is in all probability never so great under normal circumstances as to give rise to excitation of the respiratory center; for a reduction in the amount of oxygen in a respired atmosphere to below 17 per cent. must take place before dyspnœa is developed, and before this point is reached there is already a reduction in the amount of oxygen consumed by the organism, as shown, respectively, in researches by Gad (15) and by Kempner (16).

In contradiction of the prevailing view of the central incitation of respiration, the only published researches are those of Marckwald (17), which are cited by Meltzer, together with an old experiment of Volkmann's, undertaken for another purpose, but lending itself to the arguments and cited by the first-named authors.

Marckwald's position is thus comparatively isolated. It has already received a very full reply, with experimental proof, to which I would refer (8). His main conclusion, thereby controverted, differs diametrically from those of Rosenthal, Pflüger, Gad, Zuntz, and numerous others in their researches. It is as follows: "The normal excitation of the respiratory center is not dependent on incitation upon the part of the blood, neither from deficiency of oxygen nor from excess of carbonic acid in the blood," and is immediately followed by its support, to the effect that "animals without circulation and after exsanguification may continue to breathe for a long time."

Respecting this position and its supportive facts I would only note in particular that Marckwald and also Meltzer seem not to perceive that excitants of the respiratory center are necessarily still present in its tissue, being, under normal circumstances, only governed as to the amount there held by the amount of the same substances, or of other substances influencing their solubility, in the blood delivered to that center. Be there at any moment supposedly no carbonic acid within the tissue of the center, it must immediately diffuse thereto from the blood in the surrounding vessels. Be the blood, on the other hand, more or less drained from those vessels, as in the experiments of Volkmann and of Marckwald, or completely removed, as in some of the latter's researches, carbonic acid, nevertheless, still remains in the center, and will continue to be produced there as long as substances are contained within the same, available to the generation of this product of tissue activity, and for just so long, probably, will the center continue to perform its function of inciting respiratory effort. In illustration and support of this explanation of the continuance of respiration in Marckwald's experiments, I would call especial attention to the latter portion of a remark concerning them that accompanies the description of one of the same, in which, after a removal of the blood in the vessels of the respiratory center by means of an injection of paraffin, the respiration still for a time continued. The observation is as follows: "I had frequent opportunity in animals bled to death (in the dog as well as the rabbit) to note the same [*i. e.*, respiratory effort], and chiefly when they had been bound for a long time." Now, it is apparent from this that the respiratory function was at a minimum of activity, in which case, as is evident from our knowledge of the longer retention of functional power in the relatively less active respiratory center of the newborn than in that of the grown subject when deprived of air, the center would not so quickly lose its excitability on cutting off the blood-supply as in the fresh animal, whereas the formation of carbonic acid there would be a diminished one, and therefore less quickly exhaust the center through the excitation offered by its progressively increasing amount.

Hence, so long as the center preserves a sufficient excitability after the cessation of the supply of fresh blood, so long will it continue to act. If the center has been ordinarily active, the stoppage of the blood-supply will be of quicker effect than when the animal be lethargic, hypnotized, or narcotized.

The same argument applies to Volkmann's experiment (18), which is of a similar character to those of Marckwald. The former is, however, interesting to us here, because of the object its author had in making it—namely, to show that respiration is not incited by means of the vagus or of the brain, as well as because of the particular fact developed and others contained in the description, which reads as follows: "I removed in a young cat the brain, with exception of the medulla oblongata; divided the vagus on both sides; and extirpated the lungs, with protection of the phrenic nerve. The breathing [efforts—C.] simply continued for forty minutes after the excerebration," and continues: "Had I not feared being influenced by theoretical considerations (later to be unfolded), I would say the inspirations increased, soon after the removal of the lungs, in force and frequency, Any way, the motions were very energetic; the diaphragm was strongly contracted; the thorax strongly raised. I repeated the research on several young dogs with the same effect. At bottom these experiments unfold nothing unawaited, for it has long been known that an excised head continues to breathe [make nasal movements—C.] for some time (in young rabbits I have observed this seventeen minutes after the beheading).

"Thus one has occasion enough to believe that, without the accessory action of the vagus, an involuntary respiratory effort can take place."

The striking thing about these passages to which I would call especial attention is the contribution they made and are held to have made to the improbability of the incitation of respiration through the vagus; indeed, it would seem as though Dr. Meltzer, by citation of this experiment, wished to express his present coincidence with its express teaching, for he makes no objection to Volkmann's immediate conclusion.

In explanation of the experimental result upon which his theory—if he still holds that theory—depends, Dr. Meltzer makes the statement that I ask for evidence that it was not due to dyspnœa from non-aeration of blood during the prolonged stoppage of respiration incident to his unusually strong excitations of the vagus.

To this I object, as I have asked of him nothing that was not published in his original communication.

I noted that he had not considered whether the inspiratory after-effect in question might be merely dyspnœa from vitiation of blood during the cessation of respiration. He now gives his reasons for his view. I believe, nevertheless, that this after-effect of his stimulations of the vagus was dyspnœic, and for the following reasons: First, any considerable simple cessation of respiration will produce dyspnœa as an after-effect; and, secondly, an expiratory position of the chest—*i. e.*, a diminution in the volume of air still available within the pulmonary vesicles—will intensify such dyspnœa. But these conditions are essentially those of Dr. Meltzer's experiments. There is, however, a further similarity, and with reference to the vagus. In dyspnœa with unhindered respiratory passages, as upon marked muscular exertion, there must be, through the vagus, owing to the increased mean distention of the chest (6), an increased stimulation of the inhibitory nervous mechanism at the center, which is, however, overcompensated for by the increased excitants in the blood, due to the muscular exertion.

On the other hand, in a continuous stoppage of the respiration by an electrical excitation of the vagus, there is, first, an obviously increased stimulation of the inhibitory mechanism, above that in the normal respiration. The excitation hereby may be quite weak. When its amount, however, is increased far beyond such point of sufficiency, as in very strong electrical excitations of the vagus, the stimulation of the inhibitory mechanism will be correspondingly increased; for, as has been very fully shown by Bowditch, excitation of a nerve does not produce fatigue or exhaustion on its part. The full effect of the same, therefore, must come upon the center, and exhaustion or fatigue may be expected to appear in the manifestations of the latter; if not during such an excessive stimulation, at least upon its cessation.

Dr. Meltzer does not inform us to what degree or what constancy of expiration his excitations led; but he states that the effects are always expiratory when very strong currents are used, while they are uncertain with weaker ones. From this we may conclude that antagonistic factors were present in his electrical excitations of the vagus, which would therefore probably render impossible a measurement of the effect of such excitation upon the inhibitory mechanism of the respiratory center.

That the effect upon the center, nevertheless, of strong excitation, particularly when prolonged, is itself strong may evidently be assumed; that it must be lasting is shown by the fact that the normal inhibition outlasts the excitation, as shown by Gad (6).

Secondly, during a stoppage of the respiration with contracted chest, the excitants of respiration in the blood rapidly increase.

So soon, then, in the case altogether, as the excessive excitation of the vagus is ceased, its stoppage plus the fatigue of the inhibitory mechanism will allow, and the increased excitants in the blood will therefore at once produce a very marked inspiratory after-effect.

The conclusion, therefore, appears justified that the inspiratory after-effect in Meltzer's experiments was dyspnœic.

In conclusion, I would bring together a denial on his part of my understanding of his main position, with those portions of his previous communication from which I obtained that understanding. He now says: "Dr. Cowl further objects to the inference I am supposed to have drawn from my experiments on the trunk of the nerve [vagus—C.], that the lungs themselves are likewise provided with respiratory nerve fibers, and that these fibers exercise their function in ordinary breathing. On this point Dr. Cowl is mistaken; I did not draw any such conclusion from my experiments."

On pages 8, 10, 12, and 13 of his previous communication are the following paragraphs, in their order:

> "On the other hand, it is equally certain that, at least in a number of individuals, medium strong and weak stimuli can positively produce inspiratory effects. Let us for the present keep in view the latter individuals. For these, then, we are forced to assume that their vagi contain two kinds of fibers—those whose stimulation causes inspiration, and others whose stimulation inhibits inspiration."
>
> "But we can also conclude, wherever we find after an expiratory arrest an inspiratory after-effect, that inspiratory fibers are present in the trunk, and have been likewise stimulated in a latent manner."
>
> "But, as we have demonstrated in all animals under strong stimulation, such an inspiratory after-effect following an expiratory inhibition, we may conclude that both kinds of nerves exist in the vagus of all animals."
>
> "According to the view above set forth, I believe I am able to formulate a theory of respiration which is free from both objectionable features. In the first place, I assume that both fibers—those producing and those inhibiting inspiration—equally participate in the production of the rhythm.
>
> "But I do not assume that both kinds of fibers are excited by particular specific stimuli. I simply mean to introduce the long after-effect of the inspiratory fibers as a factor in the mechanism. We have above made it plausible enough that during strong stimulation of the trunk of the vagus, or during expansion of the lung [!], both kinds of fibers are equally excited, and that in this the effect of the inhibitory nerves predominates; but that after cessation of the stimulation the long after-effect of the inspiratory nerve is manifested precisely as in the cardiac nerves. Thus I believe that normal [! !] respiration, too, is effected according to the principle just explained.
>
> "Inspiration expands the lung [! !], thereby stimulating both the inspiratory and the inspiration-inhibiting nerve fibers."

A comment upon these passages seems to me unnecessary. I would merely offer them as an excuse for not discussing his other remarks.

References.

1. Marshall Hall. *Memoirs on the Nervous System.* London, 1837.

2. Schwartz. *Die vorzeitige Athembewegungen. Ein Beitrag zur Lehre von den Einwirkungen des Geburtsactes auf der Frucht.* Leipsic. 1858.

3. Miescher-Rüsch. Zur Lehre der Athembewegungen. Du Bois Reymond's *Archiv*, 1885.

4. B. S. Schultze. *Der Scheintod Neugeborener.*

5. Cohnstein und Zuntz. Weitere Untersuchungen zur Physiologie des Saugethierfœtus. Pflüger's *Archiv*, Band 42, 1888, p. 342.

6. Gad. Die Regulirung der normalen Athmung. Du Bois-Reymond's *Archiv*, 1880, p. 1.

7. Engström. Ueber die Ursache der ersten Athembewegungen. *Skandinavisches Archiv für Physiologie*, II, 2 and 3, p. 158; also *Centralblatt der Physiologie*, Dec. 6, 1890, Band 4, No. 18.

8. A. Loewy. Experimentelle Studien über das Athemcentrum in der Medulla Oblongata und die Bedingungen seiner Thätigkeit. Pflüger's *Archiv*, Band 42, 1888, p. 245.

9. Gad. Ueber Athemreflexe von den Hauptbronchen nach Versuchen des Herrn Zagari. *Verhandlungen der physiologischen Gesellschaft zu Berlin, 1889–'90.* Sitzung 25 Juli, 1890, No. 18; also in Du Bois-Reymond's *Archiv*, 1890.

10. Traube. *Gesammelte Beiträge*, Bd. i, S. 293.

11. Geppert und Zuntz. Ueber die Regulation der Athmung. Pflüger's *Archiv*, Band 47, 1888.

12. A. Loewy. Zur Kenntniss der Erregbarkeit des Athemcentrums. Pflüger's *Archiv*, Band 47, 1888, p. 601.

13. Rosenthal. *Die Athembewegungen und ihre Beziehungen zum Nervus Vagus.* Berlin, 1862.

14. Lehmann. Ueber den Einfluss von Alkali und Säure auf die Erregung des Athemcentrums. Pflüger's *Archiv*, Band 42, 1888.

15. Gad. Ueber automatische und reflectorische Athemcentren. *Verh. der physiolog. Gesellschaft zu Berlin, 1885–'86*, May 5, 1886, Nos. 7 and 8; also Du Bois-Reymond's *Archiv*, 1886.

16. Kempner. Neue Versuche über den Einfluss des Sauerstoffgehaltes der Einathmungsluft auf den Ablauf der Oxydationsprocesse im thierischen Organismus. Du Bois-Reymond's *Archiv*, 1884.

17. Marckwald. Die Athembewegungen und deren Innervation beim Kaninchen. *Zeitschrift für Biologie*, 1886, p. 120.

18. Volkmann. Ueber die Bewegungen des Athems und Schluckens mit besonderer Berücksichtigung neurologischer Streitfragen. Müller's *Archiv für Physiologie*, 1841.

ELECTRICITY IN SURGERY,

WITH SPECIAL REFERENCE TO ITS USE IN THE NOSE, MOUTH, AND THROAT.*

By D. H. GOODWILLIE, M. D.

Of all the therapeutic means for the removal of vascular hypertrophies and abnormal growths of any part of the body, but more especially those of the nose, mouth, and throat, electro-cautery is of special value, and will produce results that can not be so well attained by any other method. It is eminently superior to any caustic or cauterizing agents used in surgery. It can be limited in its action, quickly applied, and is entirely under the control of the operator.

For a successful use of electricity as a means of treatment in electro-surgery it is not necessary to have a technical knowledge of electricity. The electrical energy is now readily supplied with a simple means for controlling the electro-motive force to any particular case in hand. Primary cautery batteries will soon be among the things of the past, and in their place the electrical power will be supplied in storage cells, or used directly from the dynamo—

---

* Read before the Medical Society of the State of New York at its eighty-fifth annual meeting.

the current being controlled by a rheostat, at the will of the operator.

Here is represented a *complete electro-surgical case*, which I have had made for special use in surgery in all parts of the body. It is so perfectly under control that it can be used in the most simple or in a capital operation—from the cauterizing of the smallest ulcer to the removal of the largest fibroid, bone amputation, or the removal of necrosis.

It contains, within the portable case, five Gibson storage cells with all the instruments, of every variety, necessary in electro-surgery: Cautery-handles, écraseur, single, shielded, and écraseur electrodes, covered with asbestos, which makes them non-conductors of heat or electricity, so that they can be used in any cavity of the body with safety.

It has a Perret electro-motor, connected by a cable to my hand-piece, Fig. 2, by which you can readily control the electric current; and it also holds all kinds of surgical instruments—such as straight and circular saws, knives, trephines, etc.

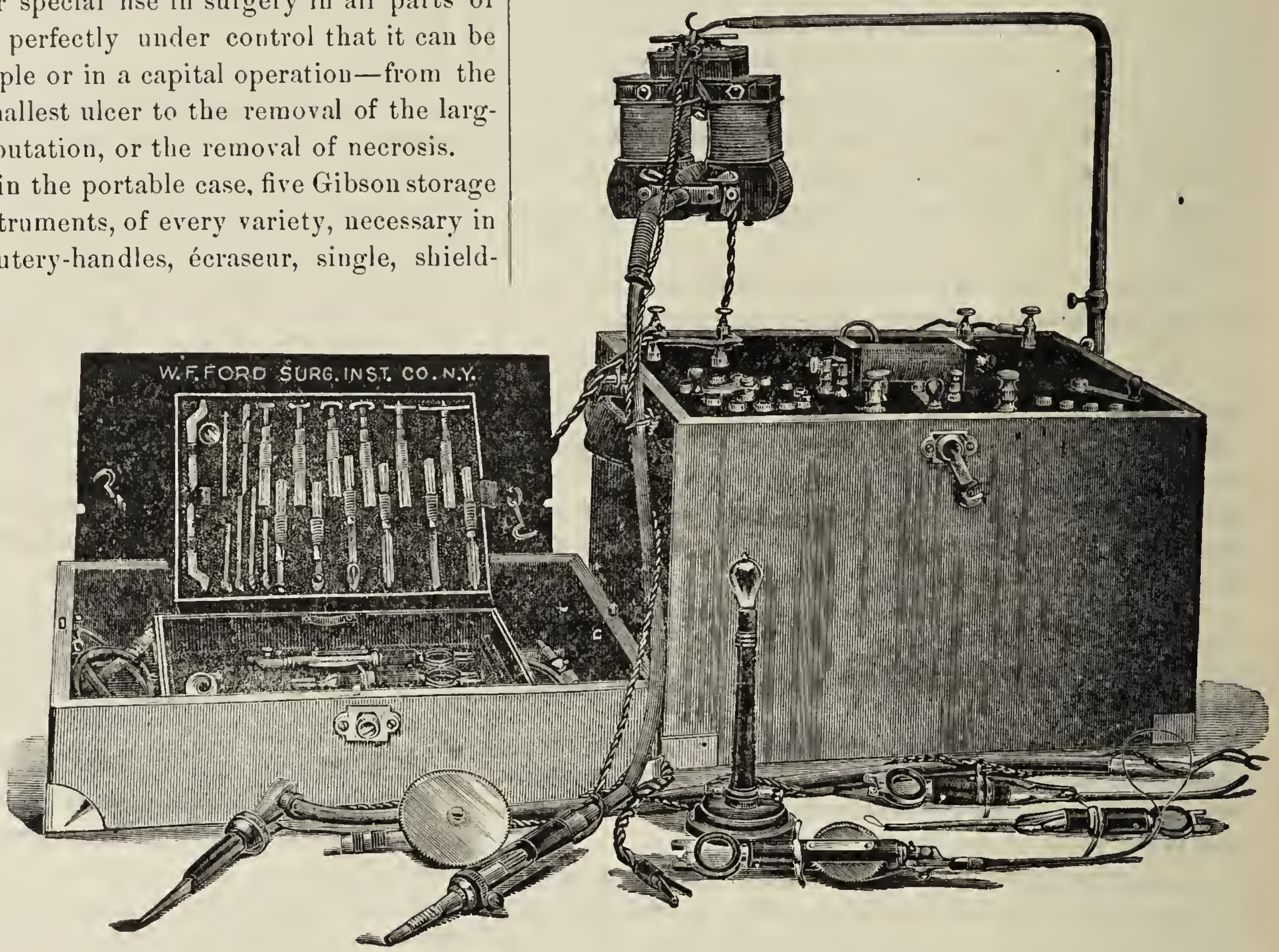

W. F. FORD SURG. INST. CO. N.Y.

FIG. 1.—The author's complete electro-surgical case. W. F. Ford S. I. Co., N. Y.

It also furnishes useful forms of electric light. The current from the storage cells is supplied from three sets of terminals, on the top of the case, Fig. 1, for cautery, motor, or electric light, and a switch (right side) to bring the current from one or more cells, which is also regulated by a rheostat (left side).

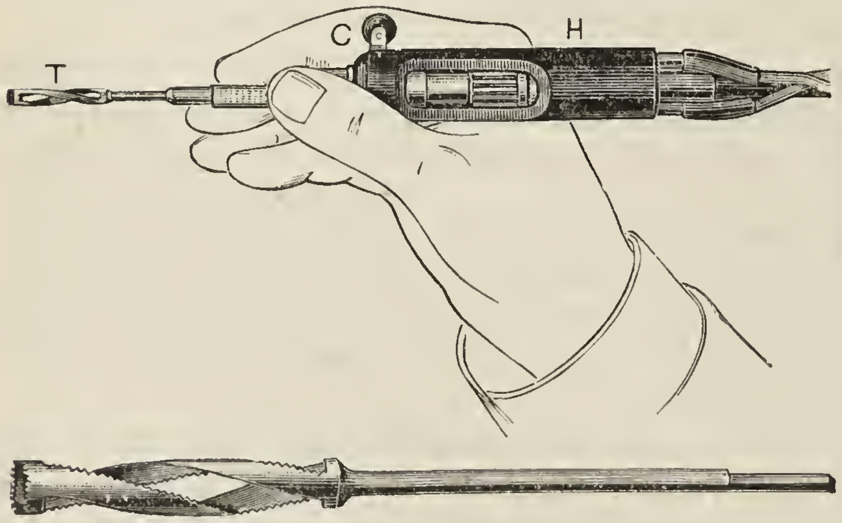


FIG. 2.—Electric hand-piece and improved interrupting push-button, C.

There are also a primary and a secondary coil, by which means the faradaic current can be used when desired.

Important things in electro-surgery are suitable and efficient handles and electrodes, by which a known current of electricity can be wisely applied to the case in hand.

The following handles and electrodes were devised by me to be used in all operations in electro-surgery in all parts of the body.

The electro-cautery handle (Fig. 3) consists of a body, F, through which passes the insulated metal core to conduct the current, and a spiral spring for the purpose of breaking the current, and also, when using the shielded electrode, to throw out the platinum point.

The finger-brace, D, and the thumb-ring, C, when approximated, connect the current and, by relaxing the hold, break it. The electrodes are fastened to the handle at G by two set screws. The handle is connected to the electrical cord at B by a very ready and simple device.

The electrodes are of a great variety of sizes and shapes, suited to any operation in electro-surgery. They are all imbedded in a solid covering of asbestos that is non-conductive both of heat and electricity, indestructible to either heat or acid.

The shielded electrodes (Fig. 5, 1 and 2) are movable within the straight or curved shields of asbestos. When the current is made, the electrodes project from the shield, and the instant the current is broken they are pulled within the shield, and thus the surrounding parts of any cavity are protected while the desired part is cauterized. The electrodes are firmly fastened to the cautery-handle by the set screws, while the shield is readily made fast to the movable finger-brace by the arms, B, from the shield, A.

It can be readily seen that this is a very great advantage when used in the nose, naso-pharynx, mouth, larynx, vagina, rectum, or other cavities of the body.

The electro-cautery écraseur has a wheel, F, Fig. 6, that the cautery wire is to be reeled upon during the operation. This is controlled in its revolution by a ratchet and a spring. The wheel has an index of measurement to show when the wire electrode is reeled up and the growth cut off in a cavity where it can not be seen. The socket has two openings, G, G, H (Fig. 6), so that the écraseur shield, Fig. 7, can be placed at different angles, and thus be found convenient for use within cavities or external parts of the body. Set posts, J, serve the purpose of holding one end of the cauterizing wire. The other end of the cauterizing wire is passed through a hole in the edge of the wheel, and then turned upon itself, and so makes it fast for reeling.

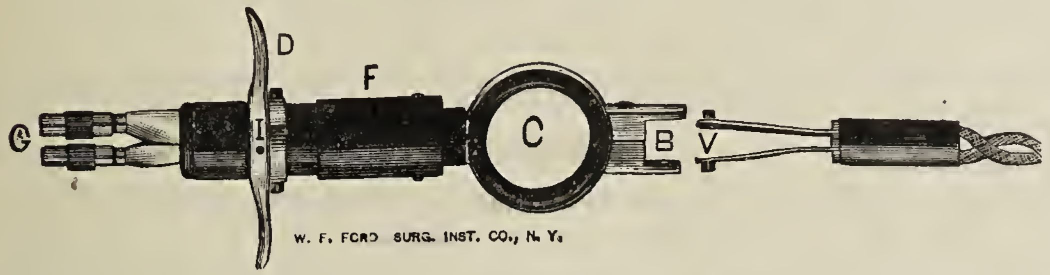


Fig. 3.—Electro-cautery handle. (Half size.)

The écraseur shields, Fig. 7, for holding the cauterizing wire are strong metal tubes, covered with the non-thermal and non-electric asbestos. They are straight and at different angles to successfully operate on any part of the body.

Hypertrophic Turbinated Tissue.—To use the cautery successfully, there should first be a good knowledge of the pathological conditions.

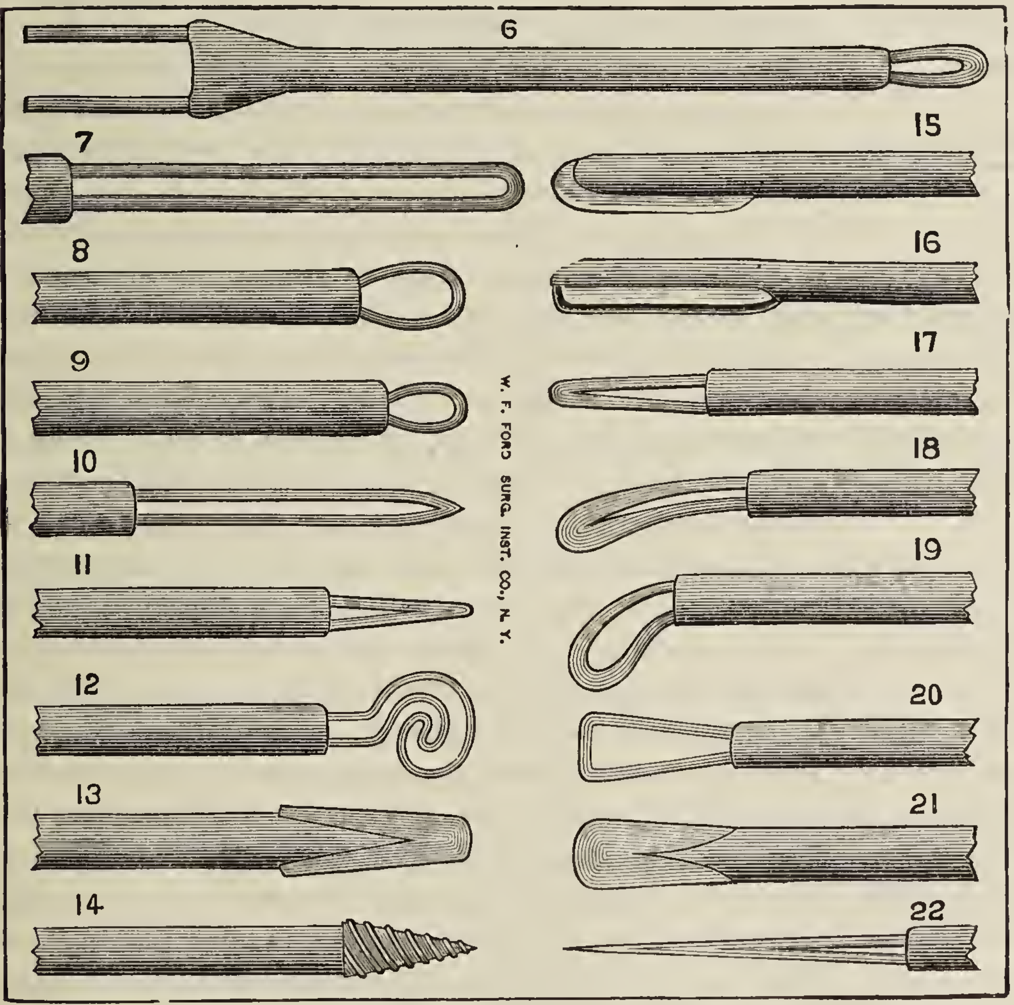


Fig. 4.—Cautery electrodes. (Full size.)

The diagnosis and the special form of electrodes to be used can not always be determined without some preliminary local treatment, particularly so in cases where there is hypersecretion.

Before using the cautery, the nostrils should be as dry as possible. To accomplish this, wind a nasal probe with a small piece of absorbent cotton and moisten it in a ten-per-cent. solution of cocaine; then pass it slowly and gently into the inferior meatus, letting it remain for a few minutes until the tissues have contracted by the action of the cocaine. Now you will be able to know whether there is hypertrophy of the turbinated tissue or dilatation of the blood sinuses, and also the condition of the bone beneath. It is well in removing hypertrophies from the upper air-passages to observe the following—viz.: Remove the smallest amount of mucous membrane, with its numerous glands, by scarifying with an electro-cautery knife the underlying hypertrophic tissue; thus the desired result will be accomplished. By removing a small amount of mucous membrane no scar will be left. Save the mucous membrane as you would preserve the skin under the condition of underlying hypertrophy.

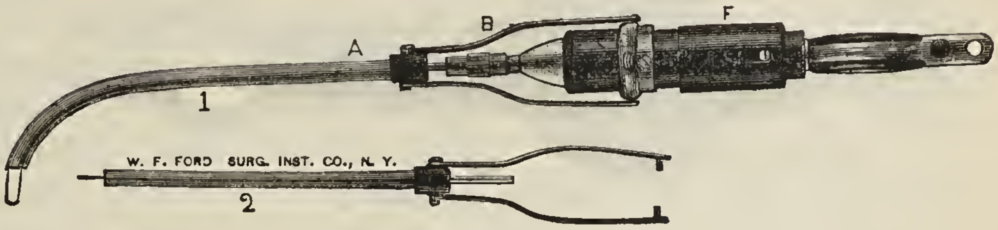


Fig. 5.—Shielded electrodes attached to handle. (Half size.)

In hypertrophy of the turbinated soft tissue of moderate amount, use the single-blade electrode (No. 15, Fig. 2). If excessive, so as to produce great stenosis, use the double-blade electrode (No. 16, Fig. 2) through a nasal shield, and scarify through the tissue. Pass immediately into the nostril an antiseptic cotton tampon, or a small size of one of my nasal intubation tubes, which can be respired through, giving comfort to the patient and molding the tissue into normal condition.

A thorough antiseptic dressing should be used of ten-per-cent. cocaine and peroxide of hydrogen, full strength, at short periods, before and after the operation.

Fibroids.—One of the most important operations to which the use of electro-cautery is particularly applicable is the removal of fibroids of the naso-pharynx by the electro-écraseur, or the shielded electrode. It should take the place of that exceedingly fatal and disfiguring operation of excision of the face and extirpation of the maxillæ for the removal of the tumor. One of the difficulties to be overcome in their removal by the electro-écraseur is getting the wire passed through the nose and naso-pharynx over the tumor and on to the pedicle. For this purpose I show you an instrument that effectually accomplishes that important first step of the operation. A double cannula, armed with the platinum wire, is passed through under the tumor, and when it reaches the naso-pharynx the ends of the double cannula are rotated from each other sufficiently to let the lower end of the tumor pass into the loop of wire, when the cannula is now drawn out and engages the pedicle. The wire that is now on the top of the tumor is passed through the écraseur electrode (No. 3, Fig. 7) to the pedicle. The écraseur (Fig. 6) is connected to the electrode, the current applied, and the tumor cut off by reeling in the wire. In these naso-pharyngeal fibroids, while in the first period of their growth, small in size, and non-pedunculated, the electro-cautery may be used to destroy them by the shielded probe electrode (Fig. 5) passed through the naso-pharyngeal space, while the tongue and palate are held by my tongue spatula and palate hook, the operation to be seen by holding a mirror in position.*

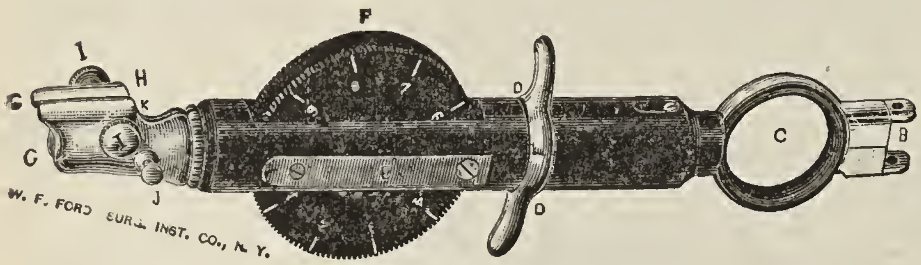


FIG. 6.—Electro-cautery écraseur.

Tongue.—For amputation of the tongue, the écraseur and curved electrode (No. 4, Fig. 7) are of very great value. For excision, the electrodes (Nos. 13, 18, 21, Fig. 4) can be efficiently used. Electro-cautery is the best method of treatment for these cases of malignant disease. The whole operation is readily accomplished without external incision, after the lingual vessels have been ligated, as external wounds of the face and jaws invite a return of the disease and unnecessarily disfigure the patient.

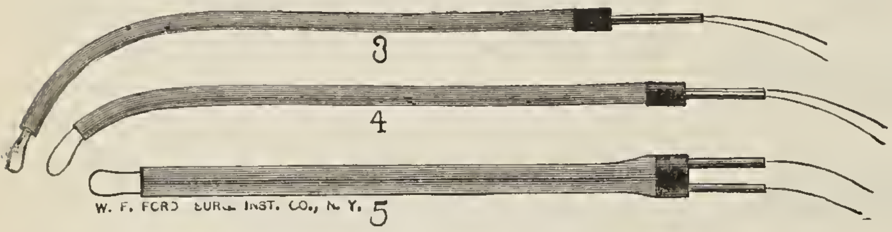


FIG. 7.—Écraseur shields. (Half size.)

Oro-pharynx and Larynx.—Hypertrophies, growths, and ulcerations of the pharynx, tonsils, epiglottis, and other parts can be readily and safely treated by the shielded electrodes (Fig. 5).

Electro-motor Surgery.—For bone hypertrophy, or necrosis of the nose, maxillæ, or bone operation in any part of the body, the electro-motor, with the appropriate surgical instruments, is of great practical importance, as the operation can be effectually accomplished without loss of the soft tissue, and with consequent bone reproduction, and little or no deformity.

The time allotted will not permit me to give in detail accounts of the numerous methods of the use of electricity in surgery. Through the means and the suggestions herewith given, I trust that others will make this of some practical value.

160 WEST THIRTY-FOURTH STREET.

---

* For a full account of the removal of these naso-pharyngeal tumors, see paper by the author, read before the Section in Laryngology of the New York Academy of Medicine. (To be published.)

ON THE SURGICAL TREATMENT OF ECTOPIC GESTATION.*

BY CHARLES A. L. REED, M. D.,
CINCINNATI.

THE profession has accepted with practical unanimity the view that all proper treatment of ectopic gestation must resolve itself into either the expectant or the surgical. The former plan would imply absolute non-interference, while the term surgical is used in this connection in contradistinction to any method of treatment by electrical currents or deep injection of toxicants for fœticidal purposes. The term surgical has indeed a still more definite significance. The time was when it might have implied section by the vagina or rectum, with excavation of the sac, but to-day it is fairly well restricted in its meaning to abdominal section, with complete removal of all the products of the aberrant gestation. The technique involved in this principle of practice is so nearly a matter of daily demonstration in all our hospitals that its recital here would be manifestly unnecessary, and I may add that a general discussion of the whole subject of the surgical management of ectopic gestation would be equally out of place at this time and in this presence. But, restricted as is the meaning of the word surgical when used in this connection, and definite and well understood as are the various operative steps thus implied, there remain three or four important points upon which opinions are at variance, and it is to a discussion of these points—a discussion which shall be only cursory and suggestive—that I invite your attention.

Shall we operate at the time of diagnosis before rupture and before the period of viability? is a question which, in the natural order of events, is the first to press for an answer. The reply must be found in the natural history of ectopic gestation. What comes of these cases when left to themselves? A moment's glance only is required to convince us that we can not hope for a statistical solution of the question. We know that certain cases rupture, giving rise to hæmorrhage, which, if not checked, will prove speedily fatal; we know that, in certain others, the ovum, extruded from the tube, becomes abdominal, goes to term and beyond, atrophies, and becomes a lithopædion; we know that in other cases the viable fœtus finds a nest between the peritonæum and the abdominal wall, there, if left to itself, to undergo similar changes; we know that in certain other cases, known as the interstitial variety, the sac generally ruptures with fatal results into the peritoneal cavity, but that in certain instances the fœtus may be discharged *per vias naturales;* and we know that in any case in which death of the fœtus takes place, suppuration, with septic infection, is liable to ensue; but, while we know all these and other facts relative, we are not in a position to say in what proportion of the whole number of cases any one of them falls true. We are, however, in position to speak definitely upon one point—viz., that in any case of ectopic gestation the patient must, sooner or later, submit to some form of operation to evade dangers which are greater than those offered by the knife in the hands of a skilled operator. All dangers, whether accidental or surgical, increase with the advance of pregnancy. It follows, therefore, as a plain matter of logic, that the sooner a patient is relieved of a condition which can be potent only for mischief, the better. It is this fact which has led Mr. Tait * to declare that, if he were ever so fortunate as to diagnosticate a case of ectopic gestation before rupture, he would advise the immediate removal of the ovum, by abdominal section, strictly on grounds of safety to the patient. This view was confirmed by Dr. Joseph Price † at the recent meeting of the Southern Surgical and Gynæcological Association, and again by Wylie ‡ so recently as in October of last year, when he stated that primary section in these cases could be done by an expert at a risk of not more than one death in two or three hundred cases.

---

* Read by invitation before the Medical Society of the State of New York, at its eighty-fifth annual meeting.

Shall we operate at the time of rupture and without waiting for the subsidence of the so-called shock? is the next question to which the operator must give his attention, and the one that most frequently and most imperatively presses upon him for solution.

I may be pardoned for urging that the term "shock" as used in this connection is a probable misnomer, and that the conditions which it is intended to designate deserve more careful differential study. It is a misfortune that the general surgical writers do not discriminate with sufficient care between shock without hæmorrhage and shock with hæmorrhage. The phenomena of shock from a railway accident, for instance, in which there is no local injury, in which the elements of concussion play an important part, differ somewhat from those which occur in connection with the internal hæmorrhage of ectopic gestation. In the former instance we have the nervous depression occurring generally independent of pain, either local or general; in the latter we have the distinct onset of intrapelvic pain as the antecedent condition. In the former we have, as the initial condition, diminished force and frequency of the pulse; in the latter we have, as the initial condition, diminished force with increased frequency of the pulse. In the former we have ordinarily a prompt and permanent reaction; in the latter the reaction is either delayed beyond several hours or does not occur at all, and, when it does occur, is interrupted sooner or later with recurrent depression.

In further study of shock in these cases I have been impressed with the fact that the conditions within the pelvis and abdomen do not furnish adequate excuse for the cardiac and respiratory phenomena that are exhibited, providing we endeavor to explain the latter phenomena on the ground of reflex nervous influence. In the first place, the rent in the tube is generally comparatively small and the damage to tissue is vastly less than in any ordinary case of extirpation of the appendages in which abdominal violence is done to the nervous filaments of the compression ligature, but in which, as compared with cases of tubal rupture, there occurs no shock whatever. In the next place, the presence in the peritoneal cavity of the blood—a bland and saline fluid with a temperature of 99° F.—will hardly longer answer as an explanation of vaso-motive and pneumogastric depression in face of the fact that we use almost habitually hot water with chloride of sodium with which to flush out the peritoneal cavity, one of the chief considerations leading to its employment being its pronounced influence in overcoming shock, and in face of the further fact that we realize the maximum of benefit from this practice when we leave a considerable quantity of the fluid in the belly. While I would not entirely eliminate the reflex nervous element from any explanation that I might offer as to the embarrassment of the heart and respiration, I have been impressed, from the foregoing considerations, that the accelerated frequency and diminished force of the pulse are to be accounted for chiefly by the lowering of arterial tension in consequence of the sudden withdrawal of resistance to the cardiac impulse; and I have been equally impressed that the respiratory embarrassment is to be accounted for chiefly by the loss of blood indirectly from the pulmonary circulation. In view of these facts, I beg leave to urge that it would be better to use the word "shock," as applied to these cases, in a very subordinate way, and to designate the phenomena collectively by the term "hæmorrhage."

If, then, we are to look upon these cases chiefly as cases of hæmorrhage, the question of treatment begins at once upon the self-limitation of that hæmorrhage. What are the probabilities in this regard? We are taught that if the hæmorrhage occurs outside the peritoneal cavity it will become arrested spontaneously, but that if it is intraperitoneal it will be uninterruptedly progressive. In the former instance we are led to hope for absorption of the clot; in the latter we are taught that the progressive hæmorrhage will speedily prove fatal. These teachings have become so nearly dogmatic that, like all dogmas, they have become suspicious, and in the interest of truth need investigation.

In the first place, permit me to urge that all cases of extraperitoneal hæmatocele due to a ruptured tubal gestation sac do not exemplify either spontaneous arrest of hæmorrhage or absorption of either the clot or the fœtal elements. In one of my earlier cases, recorded in the *Transactions of the Ohio State Medical Society*, I waited through a series of months for the hoped-for absorption, but the tumor became larger, showing marked augmentation at each menstrual period, until finally I removed nine pints of coagula. In two other cases I also failed to get the hoped-for absorption. In one of them the accumulation had extended downward and dissected the vaginal from the rectal wall at the time it was seen by the gentleman who called me to operate, and not only had this clot not been absorbed but it had become purulent; and, when seen, the patient was already the victim of sepsis, from which she died. These three cases, occurring in a practice so limited as my own, certainly indicate the improbability of spontaneous disappearance of the extruded elements in all cases in which the hæmorrhage is arterial.

---

* *Gynæcology and Abdominal Surgery.*

† *Proceedings of the Southern Surg. and Gyn. Assoc.*, 1890.

‡ *Am. Jour. of Obstet.*, 1891.

But, if we grant the spontaneous arrest and subsequent absorption of hæmorrhage in these cases, and, for argument's sake, assume that this is the invariable feature of extraperitoneal rupture of an ectopic gestation sac, in what proportion of cases is this liable to occur? Inductively, we at once conclude that it is more liable to occur in the earlier weeks of pregnancy than later, and we are brought to this conclusion by reflecting that in the earlier stages the resisting power of the peritonæum may be sufficient to deflect the discharging contents downward into the broad ligaments from a rent at any point in the circumference of the tube. And yet we are all familiar with case, reports in which alarming, and indeed fatal, hæmorrhage has taken place primarily into the abdominal cavity during the first four weeks of a tubal pregnancy. But the majority of all cases of rupture occur between the tenth and the ninth weeks. What is the condition of the peritoneal investment at this time? Clearly it must be stretched to such attenuation that its powers of resistance must be reduced to the minimum. As a consequence, any rupture is vastly more liable to occur directly into the peritoneal cavity. But, if we exclude this consideration of the subject as too theoretical, what conclusion are we forced to by the experience of gentlemen who deal largely with this class of cases? Dr. Joseph Price, with an experience of fifty-four cases, assures me, in a private communication, that he has never seen blood within the leaflets of the broad ligaments, and Dr. Gill Wylie informs me that, in an experience embracing more than twenty-five cases, he has not encountered an instance of rupture into the intraligamentous space. I am forced by these observations to conclude that the occurrence of three intraligamentous ruptures in my own limited practice is entirely exceptional.

With these facts before us, are we not forced to conclude that the preponderance of testimony favors the view that in a given case of rupture of an ectopic gestation sac the hæmorrhage occurs directly into the peritoneal cavity? And if such is the case, are we not forced to the further conclusion that, having no hope of the spontaneous arrest of the hæmorrhage, it becomes our imperative duty to cut down and tie the bleeding points at once? We are taught that the hypodermic use of ether, the application of heat over the splanchnic sympathetics, and the removal of the exciting cause comprise a good scheme of treatment for shock. For my part I feel that in these cases it would be better to whip up the cardiac and respiratory centers by the inhalation of ether, put the spur to the sympathetics by flushing the belly with hot water, and remove the cause by tying the bleeding point, and do it at once.

There are cases, however, in which the ovum may have slipped from the tube either by extrusion or by rupture, and in which the period of viability may have been reached before the case has come under observation. I feel that in these cases the fœtus has acquired rights which we are bound to respect, and, without entering into further discussion of the whys and wherefores, I feel that these patients should be permitted to proceed to term, but only under the closest possible surveillance, with preparations at hand to operate at any moment.

The experience of Tait, Olshansen, Veit, and others with cases in which ectopic gestation has occurred in the same patient after previous operation for this accident raises the question as to the proper treatment of the appendages on the other side. Ought we not to remove them, then, at the time of the first operation if they present any evidence of disease and if the condition of the patient will justify the extension of the operation? For my own part, recognizing the fact that desquamative salpingitis is the cause of ectopic gestation, and recognizing the further fact that this form of tubal inflammation is uniformly bilateral, I am forced to the conclusion that we best conserve our patient's interest when we remove the appendages from the remaining side, provided the patient is not so exsanguine as to render prolongation of the operation inexpedient.

311 ELM STREET.

RHEUMATIC FEVER; PERICARDITIS; PNEUMONIA; HYPERPYREXIA; DEATH.*

BY W. H. KATZENBACH, M. D.

MR. F., a lawyer, twenty-six years of age, came under my professional care August 2, 1890. Several of his ancestors were victims of rheumatism. He had an attack of inflammatory rheumatism at the age of twelve or thirteen, and a second, of five weeks' duration, at sixteen or seventeen. During the previous winter and spring he had frequent mild attacks in his shoulders.

On July 31st his throat became sore and interfered with swallowing. On the following day rheumatism attacked his knees, but not severe enough to confine him to the house.

On August 2d he came to the sea-shore, and with difficulty walked from the railway station to his cottage, a distance of about an eighth of a mile. I visited him soon after his arrival. At this time his fauces were red and swollen, but the tonsils were not at all prominent. The knees, elbows, and shoulders were stiff and painful. Walking was slow and difficult. His hands were raised to his head with much effort. Physical examination revealed no pulmonary or cardiac disease. Temperature 101° F., pulse 100. He was put to bed in spite of his protestations, and ordered salol in ten-grain doses every two or three hours and a diet of milk.

On August 3d his morning temperature was 101·3°, evening 103°. The skin was acting freely, joints painful, though only slightly swollen, and not particularly tender.

On August 4th, morning temperature 101·5°, evening 102·8°. The above-mentioned joints were improving, but the ankles also had now become involved. The throat was relieved by topical applications of glycerole of iron. Urine was voided freely, and contained some albumin.

On August 7th, after taking salol, ʒ ij, daily for three or four days, the urine was olive-green in color. The rheumatism not yielding to the remedy, dithiosalicylate of sodium in three-grain doses was substituted. This was given every three or four hours, but failed to relieve. Morphine became necessary at night to induce sleep.

---

* Read before the New York Clinical Society, February 27, 1891.

On August 9th a pericardial friction sound was heard, and the sac filled with fluid. On this day the temperature reached 104°, and on August 10th 104·6°. Dithiosalicylate of sodium was discontinued, and salol in combination with phenacetin, five grains of each, was given every four hours when temperature was at or above 103°. These relieved the joint pains, improved the frequency and character of the pulse, and reduced the temperature 1·5° to 2·5°. The tongue became cleaner, and albumin disappeared from the urine. Very free perspiration was induced.

On August 13th pneumonia appeared in the right lower lobe; no cough or expectoration accompanied it.

The fever continued, varying from 101° to 104°, only temporarily influenced by external and internal antipyretics.

On August 17th the skin ceased to act. The pulse was regular and steady from 112 to 120. Breathlessness was not marked, and cyanosis was not present.

On August 18th a soft systolic murmur was heard at the apex of the heart; pericardial effusion had diminished in amount, and pneumonia was resolving. From the evening of August 18th to the morning of the 19th the temperature continued from 104° to 104·4°, and the pulse from 114 to 120, notwithstanding frequent sponging and internal antipyretics. Cerebral symptoms appeared, the eyes became brighter, every sense keener, and mild, mirthful delirium appeared. Sodium salicylate was ordered in twenty-grain doses every two hours, and tepid sponging frequently. Physical examination revealed nothing new in the way of complication. Up to 8.15 P. M. he had taken ℨ ij of sodium salicylate, and at this hour his temperature was 105°, and pulse 120, regular and of fair volume. As there were no facilities for a general bath, he was placed in a cold wet pack at once, and stimulated with whisky. At 9 P. M., temperature 104·5°. Phenacetin, gr. xv, was given with whisky. His spine was rubbed with ice, and ice in cloths was applied to the head, chest, and abdomen. The pack was renewed.

At 10 P. M. the sublingual temperature was 104·7°; the rectal, 105·2°, although the external surface of the body was cool. Under these circumstances the pack was discontinued. He was now unconscious. Respiration became rapid and irregular—50 a minute—but the pulse continued regular at 126. At 11.30 the rectal temperature was 106·3°; at 12.30 A. M. (August 20th), 107·5°; at 1.10 A. M., 108°; pulse, 130; at 1.45 A. M., 108·9°. General convulsive movements occurred. The heart beats grew slower and weaker, and death occurred at 2 A. M.

SOME CLINICAL OBSERVATIONS UPON THE USE OF ERGOTOLE.

By WILLIAM C. KLOMAN, M. D.,
BALTIMORE, MD.

I WILL begin with the statement that I have no original investigations to report concerning the therapeutic properties of ergot or its representative ergotole. These are generally known to the profession from the various works on materia medica; and a recent monograph, published in the *Medical News*, Philadelphia, January 31 and February 7, 1891, by Dr. John C. Hemmeter, of this city, based upon original investigations made in the laboratory of the Johns Hopkins Hospital, throws considerable light upon several points hitherto obscure and doubtful in the physiological and therapeutic action of this drug.

My more humble, but, I think, scarcely less useful, aim is to call the attention of the profession to the excellence of this new preparation of an old drug, by which they can obtain therapeutic effects with more certainty, with more acceptability to the patient, and, if used hypodermically, with the least amount of pain and irritation. These desirable qualities have been attained by a long series of experiments and observations, made for several years, by the very reliable manufacturing chemists of our city, Messrs. Sharp and Dohme. Their aim was to rid the preparation of all inert extractives, etc., in which was contained the nauseous flavor to the palate, and to which was due the irritation of the stomach and the subcutaneous tissues. In this they have fully succeeded. Ergotole, while nearly three times as strong as the pharmacopœial fluid extract and representing all the active ingredients of that complex drug, ergot, has none of the nauseous smell or taste or irritating properties of the usual fluid extracts. These are no small advantages. How often has the anxious practitioner been foiled in a case of emergency by the rejection of the ordinary preparations of ergot by the stomach! How often have we seen great pain and troublesome abscesses produced by their use subcutaneously! All these are avoided by the use of ergotole. Being so much more concentrated, the dose by mouth or by injection is correspondingly smaller, which is another great desideratum.

I will illustrate these points by some actual experiences:

I was lately called in to see a prominent physician suffering from hæmoptysis and in great danger. He had had several hæmorrhages, and had lost about eight pints of blood within twenty-four hours. The hæmorrhage had been partly controlled by the hypodermic use of the ordinary fluid extract of ergot. In my examination I happened to touch his left arm and elicited an exclamation of pain, and was asked to be careful, as it was very sore. Upon examination, there were three points where the hypodermic needle had been inserted, each of which bade fair to become a good-sized abscess, and they were very much swollen, discolored, and painful. I administered fifteen minims of ergotole by injection into the right arm, and he told me with surprise that he scarcely had felt it, nor was there any subsequent irritation. The remedy was used in this way quite a number of times for several days with the same happy results. And the hæmorrhage was checked.

I have repeatedly given it by the mouth in obstetrical and gynæcological cases, and have never had expressions of disgust about any vile taste, nor was it ever rejected by the stomach. I have used it locally as an application in erysipelas, in cellulitis, etc., for restraining the hyperæmia, with great success.

I trust this short article may induce many of my brother practitioners to use this elegant preparation, and I promise them full satisfaction and content.

808 WEST NORTH AVENUE.

Condensed Milk as an Emulsifier.—"Condensed milk is said to be an excellent and economical agent in the preparation of emulsions. The following is given for a fifty-per-cent. emulsion of cod-liver oil: Cod-liver oil, eight parts; condensed milk, glycerin, or syrup, each three parts; distilled water, two parts. Triturate the condensed milk in a mortar, adding the oil gradually, then add the water and glycerin together with sufficient oil of bitter almonds and essence of wintergreen to mask the taste of the oil."—*Druggists' Circular and Chemical Gazette.*

THE
NEW YORK MEDICAL JOURNAL,
A Weekly Review of Medicine.
Published by D. APPLETON & CO.
Edited by FRANK P. FOSTER, M. D.

NEW YORK, SATURDAY, JUNE 6, 1891.

DR. LANGE ON PERITYPHLITIS.

In the March number of the *New Yorker medicinische Monatsschrift* there is an important article on Perityphlitis, by Dr. Friedrich Lange, of New York. He makes the striking statement that during the whole of his career as a student in Germany and as an assistant at two of the larger surgical university clinics he did not see a single case of perityphlitis subjected to surgical treatment further than that ultimately, in cases of unmistakable superficial suppuration, an incision was made; but that, on coming to New York, now more than thirteen years ago, he encountered a more correct appreciation of the disease, the late Dr. Willard Parker having been the first to advocate a methodical procedure applicable to a great number of cases, and his pupil, the late Dr. Henry B. Sands, having followed in the same path. But the erroneous idea still prevailed that in the great majority of cases the inflammation and suppuration were situated outside the peritonæum. This, however, was soon corrected, mainly by the very painstaking work of such men as Fitz, Morton, Kraft, Mikulicz, Weir, McBurney, Stimson, and Hartley, and the vermiform appendix came to be recognized as almost without exception the starting-point of the trouble.

According to Dr. Lange, the disease is unusually common in America, and particularly in New York, Stimson, for example, having encountered twenty-one cases in a period of eleven months. This he attributes to two of our national failings, that of eating too much and chewing too little, the result of which is constipation. Contributory causes of the prevalent constipation are our hurrying, restless, nerve-straining lives, which lead us to ignore the demands of nature. Fæcal accumulation sets up trouble in the mucous membrane of the cæcum. So-called fæcal calculi are often found, but very rarely — much more rarely than was formerly believed — foreign bodies, as causes of appendicular disease. The presence of pent-up secretions in the appendix is prone to set up an inflammatory condition, and this may pursue its course without destroying the integrity of the appendicular wall, or it may lead to extracæcal suppuration, which is almost always situated within the peritonæum, rarely between the layers of the mesocolon, and almost invariably accompanied with perforation of the appendix. This diversity in the course of the process serves to divide the cases into two great groups, viewed from the pathological standpoint, however they may differ—and they differ widely in their subsequent history. The two groups are of the most divergent prognostic significance as regards the immediate result, although the non-suppurative cases are apt to relapse and finally to become suppurative. Even in the perforative cases, however, the patient's chances are by no means desperate, if we except the cases of fulminant septic peritonitis, in which, by the way, the performance of laparotomy is called by Dr. Lange a doubtful expedient. Allusion is made to Dr. Renvers's observation of the expectant treatment in fifty four cases occurring during a period of four years at one of the university medical clinics in Berlin. None of the patients were subjected to operation, and only three died. This, however, Dr. Lange suggests, may have been partly owing to the fact that patients suffering from forms of the disease that are manifestly grave are often judged incapable of bearing removal to a hospital, or else are in such obvious need of operative treatment that they are taken to the surgical wards at once, so that they do not come under the observation of those charged with the medical service.

In cases that go on to the formation of an abscess, Dr. Lange recognizes three typical situations of the purulent collection. In the first class, it surrounds the cæcum and ascends above the outer half of Poupart's ligament and the adjacent portion of the ilium to the anterior abdominal wall; in the second, it lies more behind the cæcum, toward the lumbar region; in the third, it tends toward the median side of the cæcum, and subsequently causes distention deep in the true pelvis. These varieties run into each other frequently, but it is of practical utility to distinguish them as types. They seem to correspond to the varying situation of the appendix. "McBurney's point" of special tenderness corresponds, in the majority of cases of the circumscribed form, to the actual situation of the junction of the appendix with the cæcum, which—and not, as one might presume *a priori*, the free extremity of the former—is the commonest site of the perforation; hence, its recognition is of great practical utility, although, as Dr. Lange has before contended, the point of greatest tenderness varies with the situation of the focus of inflammation.

We are glad to see that Dr. Lange takes a decidedly conservative stand in the matter of treatment. While he admits that there are cases in which laparotomy can not be resorted to too early, he deprecates its performance in the general run of cases—cases of circumscribed suppuration—for they almost always go on to complete recovery after simple incision and drainage. The dread of still leaving a diseased appendix, and possibly a coprolith, is practically unfounded. He has seen but two cases of relapsing suppuration, and in each of those sound healing took place after a repetition of the simple operation. The cry for early and indiscriminate laparotomy finds its only justification in the fact that a few cases run a malignant, septic course, and, almost without exception, end in speedy death, with or without laparotomy. What is needed is some means of distinguishing these cases at the very outset. The physician should watch the patient most minutely from the first to the third day, and call in the surgeon immediately on the occurrence of an unfavorable turn, and not twelve hours later. A particularly ominous condition is that in which, in an adult, the pulse rises above 120, and the breathing is correspondingly hurried, often with a subsequent cyanotic appearance—all these symptoms being entirely out of proportion to the pain, tympanites, and other abdominal signs, and seeming to indicate poisoning. In one such case Dr. Lange has noticed a slight sweetish odor of the breath. In none of them—and he mentions a number—has laparotomy saved the patient; rather has it seemed to hasten the fatal issue. He suggests the possibility of finding an antidote to the poison, and hints that it may prove of more avail than surgical interference.

In a few of the grave cases where progressive peritonitis seems to be going on, and where, so early as the second or third day, it seems to be too late to hope for any good from laparotomy, the operation is postponed, the system rallies from the first shock of the disease, in a few days the patient is in condition to bear abdominal section, and its performance proves successful. In cases where one is perplexed by the dilemma that an immediate operation will hasten death and that death without an operation is almost sure to take place from advancing sepsis, Dr. Lange is disposed to temporize.

The remainder of the article deals with interesting points in diagnosis and treatment that the limits of our space do not admit of our attempting to present. We earnestly commend the entire article.

MINOR PARAGRAPHS.

THE COEXISTENCE OF CHICKEN-POX AND OTHER INFECTIOUS DISEASES.

Numerous cases of this character have recently been reported by different observers in the *British Medical Journal.* Bevan reports the cases of three brothers suffering from typical scarlet fever. On the fifteenth day, while desquamation was active, the characteristic eruption of chicken-pox developed in one case, and thirteen days later a second child was attacked with the same disease. Though the scarlet fever was very mild and the chicken-pox severe, it is doubtful if one was materially influenced by the other. Dr. Shadwell treated four children in one family ill with scarlet fever, one of whom died. A fifth child, who had never had scarlet fever, was exposed to the infection for forty-eight hours, but did not contract the disease. Four days later, however, the rash of chicken-pox appeared. There was no soreness of the throat or other symptom of scarlet fever. Here the exposure to chicken-pox must have preceded that to scarlet fever by at least ten days. Mr. Douglas reports a case in which the eruption of chicken-pox preceded that of measles by three days. Both eruptions were profuse and characteristic. The author was led to believe that the incubation of chicken-pox was prolonged through the influence of an antecedent attack of measles on the system.

COLUMBIA COLLEGE.

It is announced that a new committee of the trustees, consisting of Mr. Vanderbilt, Dr. Wheelock, Mr. Mitchell, Dr. Draper, and Mr. Potter, has been appointed on the College of Physicians and Surgeons; that the alumni association of the medical school has founded three fellowships, of $500 each, for two years; and that Dr. John G. Curtis, the professor of physiology, has given his physiological apparatus to the school. All these things point to immediate good results from the consolidation of the College of Physicians and Surgeons with the university.

THE MARINE-HOSPITAL SERVICE.

It is with great regret that we learn of Dr. John B. Hamilton's resignation from the office of surgeon-general, an office in which he has practically made the service what it is. The loss of the service is Chicago's gain, for Dr. Hamilton is to take the chair of the principles of surgery and clinical surgery in the Rush Medical College of that city. It is said that Dr. Walter Wyman is to succeed Dr. Hamilton as surgeon-general.

THE HOSPITAL GRADUATES' CLUB.

The recent annual dinner of this organization reminds us anew of its usefulness and of its prosperity. It is made up of the younger New York physicians who, in addition to their undergraduate course, have served a term in a hospital. Such an association of gentlemen of unusual opportunities promotes good feeling among the various hospital medical officers and fosters a wholesome pride in the fact of having had a hospital training.

ITEMS, ETC.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported during the two weeks ending June 2, 1891:

DISEASES.	Week ending May 26.		Week ending June 2.	
	Cases.	Deaths.	Cases.	Deaths.
Typhoid fever	13	5	9	4
Scarlet fever	232	24	218	46
Cerebro-spinal meningitis	3	0	4	3
Measles	364	22	316	10
Diphtheria	74	24	107	25
Small-pox	0	0	0	0
Varicella	15	0	5	0
Whooping-cough	3	8	3	3
Erysipelas	1	0	2	0

The New Hampshire Medical Society will hold its one hundredth annual meeting in Concord, on Monday, Tuesday, and Wednesday, the 15th, 16th, and 17th inst., under the presidency of Dr. Lyman B. How, of Manchester. The scientific papers will be read on Monday. They will include contributions by Dr. E. E. Graves, of Boscawen, Dr. Ellen A. Wallace, of Manchester, Dr. A. P. Richardson, of Walpole, Dr. J. J. Berry, of Portsmouth, and Dr. C. P. Frost, of Hanover. The "centennial programme," for Tuesday, includes the president's address and historical papers by Dr. John W. Parsons, of Portsmouth, and Dr. Irving A. Watson, of Concord. Wednesday's session will be devoted to business matters.

The New York Academy of Medicine.—At the next meeting of the Section in Genito-urinary Surgery, on Thursday evening, the 11th inst., Dr. W. K. Otis will make Ocular Demonstrations of the Male Urethra and Bladder by Means of New Instruments, and Dr. G. E. Brewer will read a paper on Bichloride of Mercury in the Treatment of Gonorrhœa: the Results obtained in Five Years' Experience with the Remedy.

The late Dr. Fordyce Barker.—The New York Obstetrical Society has passed the following:

Resolved, That by the death of Dr. Barker the Obstetrical Society has sustained the loss of its oldest and most eminent honorary fellow, who, though prevented in recent years by reason of his failing health from taking an active part in its scientific work, always maintained a lively interest in its proceedings and rejoiced in its prosperity.

Resolved, That the fellows of this society, recalling his numerous acts of kindness toward them individually, feel that when his great, warm heart ceased to beat they lost not only one who was the finest type of professional honor and dignity, but a long-tried personal friend.

Resolved, That they will cherish his memory as that of a wise physician and a chivalrous, high-toned gentleman, whose name will ever remain a synonym for all that is noblest and best in our profession.

Resolved, That we respectfully tender to the family of the deceased our sincere sympathy, and that copies of these resolutions be sent to them and published in the various medical journals.

For the society,

[Signed.] Thomas Addis Emmet, M. D.
William M. Polk, M. D.
Joseph E. Janvrin, M. D.
Henry C. Coe, M. D.

At a special meeting of the Medical Board of the New York Cancer Hospital, held June 1, 1891, the following resolutions were unanimously adopted:

Whereas, In the death of Dr. Fordyce Barker, consulting physician to the hospital, this board has suffered the loss of its oldest and most eminent associate, whose interest in the welfare of the hospital, shown in his address at the opening ceremonies, was fully maintained until the close of his life;

Resolved, That we hereby express our grateful recognition of his services and our pride in the recollection of his connection with our institution, and that we tender to the family of the deceased our deep sympathy with them in their bereavement;

Resolved, That we attend the funeral services of Dr. Barker, and that the secretary send copies of these resolutions to the family, and also to the *New York Medical Journal* and to the *Medical Record* for publication.

[Signed.] B. Farquhar Curtis, M. D., *Secretary.*

The Kings County Medical Association.—The June meeting will be held in Brooklyn on the 9th inst. The paper of the evening will be on the Relation of the Cervix Uteri to Sterility of Women, by Dr. J. R. Vanderveer.

The Death of Dr. David Phillips, a recent contributor to our columns, is announced as having taken place at his home, in New York, on Thursday, May 28th. The deceased was a graduate of the College of Physicians and Surgeons, of the class of 1873.

Army Intelligence.—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from May 24 to May 30, 1891:*

Brown, Paul R., Captain and Assistant Surgeon. Leave of absence for one month, with permission to apply for an extension of one month, is granted in Par. 4, S. O. 59, Department of the Missouri, St. Louis, May 26, 1891.

Wyeth, Marlborough C., Captain and Assistant Surgeon. By direction of the Secretary of War, leave of absence for three months, on surgeon's certificate of disability, is granted in Par. 6, S. O. 119, A. G. O., Washington, May 25, 1891.

Naval Intelligence.—*Official List of Changes in the Medical Corps of the United States Navy for the week ending May 23, 1891:*

Bright, George H., Surgeon. Detached from U. S. Steamer Omaha, and granted three months' leave of absence.

Means, V. C. B., Passed Assistant Surgeon. Detached from U. S. Steamer Omaha, and granted three months' leave of absence.

Keeney, James F., Assistant Surgeon. Ordered for examination preliminary to promotion to passed assistant surgeon.

Society Meetings for the Coming Week:

Monday, *June 8th:* Oregon State Medical Society (first day—Portland); New York Academy of Medicine (Section in Surgery); New York Ophthalmological Society (private); New York Medico-historical Society (private); Lenox Medical and Surgical Society (private); Boston Society for Medical Improvement; Gynæcological Society of Boston; Burlington, Vt., Medical and Surgical Club; Norwalk, Conn., Medical Society (private); Baltimore Medical Association.

Tuesday, *June 9th:* Delaware State Medical Society (first day—Rehoboth); Maine Medical Association (first day—Portland); Massachusetts Medical Society (first day—Boston); South Carolina Medical Association (first day—Anderson); New York Medical Union (private); Medical Societies of the Counties of Chemung (annual—Elmira), Chenango (semi-annual), Delaware (annual), Erie (semi-annual—Buffalo), Geneseo, Genesee (annual—Batavia), Livingston (annual), Onondaga (annual—Syracuse), Rensselaer, St. Lawrence (semi-annual), Steuben (annual—Bath), Warren (annual—Lake George), and Wyoming (Warsaw), N. Y.; Newark, N. J., and Trenton (private), N. J., Medical Associations; Baltimore Gynæcological and Obstetrical Society.

Wednesday, *June 10th:* South Dakota State Medical Society (first day—Chamberlain); Delaware State Medical Society (second day); Maine Medical Association (second day); Massachusetts Medical Society (second day); South Carolina Medical Association (second day); New York Pathological Society; American Microscopical Society of the City of New York; Metropolitan Medical Society (private); Medical Societies of the Counties of Albany, Cortland (annual), Dutchess (semi-annual—Poughkeepsie), and Montgomery (annual—Fonda), N. Y.; Middlesex, N. J., County Medical Society (annual); Philadelphia County Medical Society.

Thursday, *June 11th:* Rhode Island Medical Society (first day—Providence); Michigan State Medical Society (first day—Saginaw); South Dakota State Medical Society (second day); Maine Medical Association (third day); South Carolina Medical Association (third day); New York Academy of Medicine (Section in Pædiatrics); Society of Medical Jurisprudence and State Medicine; Brooklyn Pathological Society; New York Laryngological Society; Medical Society of the County of Cayuga (annual), N. Y.; South Boston, Mass., Medical Club (private); Pathological Society of Philadelphia.

Friday, *June 12th:* South Dakota State Medical Society (third day); Rhode Island Medical Society (second day); Michigan State Medical Society (second day); German Medical Society of Brooklyn; Medical Society of the Town of Saugerties.

Saturday, *June 13th:* Obstetrical Society of Boston (private).

Answers to Correspondents:

No. 356.—Dr. Metchnikoff is a resident of Odessa, Russia. He writes English, and will doubtless be happy to answer your questions, if you will address him.

No. 357.—We do not know of any really good book on the subject, of recent date, and an old one is of little use.

No. 358.—See an article by Dr. E. L. Tompkins, of Washington, in our issue for November 29, 1890, page 589.

Obituaries.

FORDYCE BARKER, M. D., LL. D.

Dr. Barker died at his home, in New York, on Saturday, May 30th, of apoplexy. The attack occurred on the Thursday before. It was only after some hours that he became unconscious, and consciousness returned a considerable time before the fatal termination took place. He diagnosticated his own case correctly, and remarked that the end was near. He had been in failing health for the last five years, ever since an attack of typhoid fever that befell him in England, but he had done more or less professional work up to the very time of the apoplectic seizure. He was in his seventy-third year at the time of his death, and even somewhat protracted ill-health had hardly impaired his fine, manly figure or his handsome, winning face; it had had absolutely no effect upon the heartiness and geniality of his demeanor.

Dr. Barker was a graduate of the Medical Department of Bowdoin College, in his native State, and subsequently of the Medical School of Paris. The degree of LL. D. was conferred upon him by Bowdoin College, Columbia College, and the University of Edinburgh. He began practice in Norwich, Connecticut, but after a few years he came to New York, where he soon became a prominent practitioner and teacher. He was the professor of obstetrics in the old New York Medical College. When the Bellevue Hospital Medical College was started, he was made one of its professors of obstetrics. Although he taught obstetrics, and was recognized as an authority in that branch of medicine, he was above all a physician, employed largely in consultation. His efforts were of the greatest avail in establishing the Woman's Hospital upon a sure foundation, and he was one of the founders and the first president of the American Gynæcological Society. He was connected with many hospitals, either actively or as a consultant, and was an active or honorary member of a great number of learned societies at home and abroad. It was during his presidency of the Academy of Medicine, and mainly in consequence of his personal exertions, that that institution was enabled to take the first substantial steps in the acquirement of a fund with which it has lately provided itself with a commodious and fire-proof building. He was not a voluminous writer, but his excellent treatise on *Puerperal Diseases* stands, and will stand for many years, as a monument to his cleverness as an observer and to his lucidity as an interpreter of what he observed. Until within the last few years, he was frequently heard in society discussions, and always with pleasure and profit, and he was often called upon to deliver formal addresses, which he always did most gracefully. As a speaker, he was known almost as well, and listened to with quite as much pleasure, in Europe as at home, and a striking exemplification of his magnetism over an audience is to be found in the respect with which his continued advocacy of an obsolete doctrine of the pathology of puerperal fever was received.

Dr. Barker was a great physician; still more was he a great man. Not within the memory of a generation, to the best of our belief, has it fallen to the lot of any American physician to secure the confidence of so many conspicuous persons as were included among his patrons. This was not wholly owing to his mere professional efficiency, great as that was; it was largely the outgrowth of his sympathetic and great-hearted nature. No medical man ever possessed more social influence than Dr. Barker; he was not alone his patients' physician; he was their friend. In consultation, in like manner, he never played the oracle; he aided the attending physician with his moral support as well as his technical knowledge. On this account and many others the esteem and love in which he was held by the medical profession and the community were phenomenal. Fordyce Barker was a lover of his kind, a lover of everything noble. There is nobody who can quite take his place at present; such men come into the world only at long intervals. What we have lost in his death can not be set down in words.

Letters to the Editor.

PELVEOSCOPE AND GASTRODIAPHAN.

1055 Lexington Avenue, New York, *May 27, 1891.*

To the Editor of the New York Medical Journal:

Sir: In referring to my recently published article in your valued journal—Description of a Pelveoscope—Dr. Einhorn felt himself inclined to address a letter to you in which he maintains the identity of my instrument with his gastrodiaphan, a description of which, so he alleges, appeared in an issue of the *Medizinische Monatsschrift* of 1889. Supporting this assertion, he adds an illustration of his instrument, at the same time permitting himself to make the personal remark that he is convinced of my knowledge of his publication in the journal mentioned, he having had a conversation with me about a year ago about his gastrodiaphan.

One may comprehend the true significance of the insinuation thus directed toward me! The reproach appears so monstrous that it requires an effort to accept it as seriously meant. Nevertheless, leaving the question of the supposed identity of both instruments momentarily aside, I will state the following facts:

About a year ago, when I was introduced to the above-named gentleman, his name recalled to me a short notice I had seen in a German medical paper, according to which a Dr. Einhorn, of New York, had described a gastrodiaphan. On my asking him if he was that gentleman, he answered affirmatively. I must confess that, up to date, my idea of this apparatus has been none other than its mere name could suggest. Since that time I have had but two or three conversations with the above-named gentleman, each perhaps of a moment's duration, and I herewith declare and assert positively:

Firstly, that any conversation I am supposed to have had with Dr. Einhorn about his instrument was a purely visionary one.

Secondly, I assure you, Mr. Editor, that I have for the first time been enlightened by Dr. Einhorn's recent letter as to when and where his description of the gastrodiaphan appeared, also that through the same medium I have for the first time seen an illustration of the same.

If Dr. Einhorn declares positively that I read his article before the publication of the description of my pelveoscope, I can accept such declaration merely as an auto-suggestion of the aggrieved author, while I must acknowledge, however, that an omission of his name in my article was an oversight which is explained by the fact that I am not a reader of the *Medizinische Monatsschrift.*

On the other hand, you, esteemed Mr. Editor, and the worthy readers of my article, will hardly withhold from me the merit of having conscientiously striven to bring forward correct historical facts pertaining to similar instruments previously constructed, having thereby proved that the majority of like instruments of the present day celebrate a kind of resurrection. That fact, that I, in contrast to many others, did not content myself with a mere description of a new instrument, but did full justice to the earlier medical generations, protects me sufficiently, in the eyes of all reasonably thinking colleagues, against any accusation of being guilty of an intentional or unintentional plagiarism.

I do not know if Dr. Einhorn has, in his article, cited historical facts. In his letter he declares himself the *first* to have transluminated the *stomach* in man. Taking for granted that this assertion is correct, and that is questionable, as it may be quite possible to prove the contrary, does Dr. Einhorn with his letter wish to convey to the public mind that he desires to acquire the monopoly for transluminating other organs of the human body?

Supposing I had read his article before my publication, could that have prevented me from publishing a description of my pelveoscope? Regarding the supposed identity of the two instruments, little need be said. The former's apparatus, judging from its external form, consists of an œsophageal tube, which is inserted into the stomach; my instrument, which serves for gynæcological purposes only, is inserted into the rectum with a simultaneous application of the vaginal speculum, and effects a translumination of the organs of the pelvis. Surely there can be no denial of a certain external resemblance that both instruments bear to one another, as both are introduced into cavities of the body and serve the purpose of transllumination.

With the same, but authoritative, right could Dr. Bruck, of Breslau, Silesia, were he still living, or Mr. Leiter, of Vienna, who both inserted a rubber tube into the bladder, maintain that their instrument was identical with Dr. Einhorn's, only that the latter's was somewhat larger and thicker.

I need not here picture to what ridiculous consequences such ideas would lead; so, Dr. Einhorn, *si tacuisses*, etc.

Certainly Dr. Einhorn asserts that his gastrodiaphan could be applied for an examination of the colon; but in that very statement the striking fact is disclosed that not the remotest idea of the fundamental principles upon which my pelveoscope is constructed ever occurred to that gentleman.

Mr. Editor, is that a transllumination of the organs of the pelvis? *Sapienti sat!* Hugo J. Loebinger, M. D.

Proceedings of Societies.

NEW YORK NEUROLOGICAL SOCIETY.

Meeting of May 5, 1891.

The President, Dr. Landon Carter Gray, in the Chair.

The Back in Railway Spine.—Dr. F. X. Dercum, of Philadelphia, read a paper with this title. He said it seemed to him that, in discussing railway injuries, the physical condition of the back had not been sufficiently dwelt upon. It was certain that more had been said pro and con upon injuries of the spinal contents, and far more still upon the subject of traumatic neuroses. It had been the speaker's fortune to examine a large number of railway and allied injuries, and it had appeared to him that the condition of the back was often poorly understood and often unappreciated, while important points were sometimes entirely overlooked. Further, conditions were occasionally observed which were difficult of explanation, and it was to these he wished to call attention. It was well known that pain of various kinds was met with in railway cases, but he wanted to exclude from the discussion all pains the existence of which could not be confirmed by any physical evidence and which rested solely upon the unsupported statements of the patient. On the other hand, all pain signs of which were evoked without previous warning or suggestion should be rigidly admitted. He strongly advised the thorough examination of all such patients by superficial and deep pressure and by blows, as by this means information of a decided character might be gained in cases otherwise obscure. Another important method of testing was by motion. In regard to pain elicited by voluntary motion, the objection might be urged that here an opportunity was presented to the malingerer. There were, however, so many other means of ascertaining the truth that difficulty in arriving at definite conclusions would rarely be experienced. Much depended upon the manner in which the various tests for motion were applied. These tests consisted of flexion forward, lateral flexion, torsion, and transmitted shock. Having first practiced palpation and pressure, and gleaned such information as could be obtained from these sources, with the patient standing before us the back should be closely inspected. Following this, the tests for motion should be gone through with. After having briefly considered the various tests for eliciting pain, he said that not only was it possible with due care to settle the question of the genuineness of the symptoms by any one of the methods detailed, but it was also evident that there must be a general correspondence in the results of all the methods. We should expect, for instance, that the area of pain upon deep pressure would correspond, other things being equal, to the area of pain on motion, or that the region of pain elicited by percussion would correspond to the region of pain elicited by transmitted shock. The speaker then detailed the histories of six cases bearing upon the question. The various symptoms presented in these cases could be conveniently grouped as follows: First, those due to the physical condition of the back; secondly, the symptoms of functional derangements and asthenia; and, thirdly, those that presented psychic and hysterical symptoms. To the first group belonged—first, pain on deep pressure; secondly, pain on motion and transmitted shock; thirdly, muscular spasm and rigidity; fourthly, muscular weakness. Now, the pain elicited by pressure, motion, or shock was evidently the result of a deep-seated injury either to the ligaments of the spinal column or to the muscles, probably to both. Practically, it was impossible to distinguish between the two, and it was not important to do so. To muscular spasm and rigidity was to be assigned the same value which was assigned to the muscular spasm observed in a sprained, dislocated, or broken limb. The muscular weakness, resulting occasionally in lordosis, was to be ascribed to the general weakness produced by the shock, and also to the direct effect of the trauma upon the muscles themselves. To the group of symptoms of functional derangements and asthenia belonged the various symptoms of general weakness, both mental and physical, tremor, sweating, inability to properly expel or to retain the urine, etc. To the group of psychic and hysterical symptoms were relegated the hypochondriasis, the night-horrors, and the convulsions. One important problem, however, still presented itself, and that was, why it was that some of these cases did not attain their maximum severity for days and weeks after the accident. It was thought exceedingly probable that there was a direct extension of inflammation from the original site of the trauma along the sheaths and tendons of the muscles. It was difficult to escape from this inference, inasmuch as there was a marked spread in the area of pain on deep pressure. Hand in hand with this there was, beyond a doubt, a radiation in the muscular spasm—a radiation, too, which might reach not only muscles immediately adjacent but those even relatively remote, such as the muscles of the abdomen or of the shoulder. As to the question of duration of the symptoms, it was impossible to give a definite answer. It was a question of probability and of degree, and therefore one in which legitimate differences of opinion might obtain. However, taking the cases the speaker had seen, it was evident that chronicity must be admitted as established beyond cavil. In regard to the disappearance of so-called "litigation symptoms," made so much of by Page and others, the speaker's observations had been that when a claim for damages had been settled the mental condition improved very much. A man who, perhaps, was poor was suddenly raised to a condition of relative wealth. No wonder that hypochondriasis often disappeared and was replaced by buoyancy and exaltation; it would be strange indeed if it were different. After a while, however, he had seen the old mental condition partly re-establish itself, while the physical condition had undergone no change, save that which could be accounted for by the slow repair of time. Lastly, the cases which had been presented had been selected because of the marked and pronounced condition of the back. He did not wish to create the impression that every case should present the back symptoms to an equal degree in order to be considered genuine. As a matter of fact, in a large number of instances of *bona fide* railway back the symptoms were far less evident than in the cases detailed. Finally, he repeated that careful application of the various tests for eliciting pain and spasm could not fail to evoke a reply if trauma was really present.

Dr. Græme M. Hammond called attention to a train of symptoms similar to those described by Dr. Dercum to be found in a modified form among athletes. This was especially the case with those who practiced jumping and running. He had seen several instances in which the patients complained of pain in the back and of deep-seated pain on pressure and on stooping forward. There would also be exaggerated reflexes. These symptoms would persist for months while the individual was practicing his exercises. In jumping, the foot struck the ground in the take-off with considerable force. In running long distances, the repeated jar from the foot striking the ground would be transmitted to the spinal cord. Indeed, it was his opinion that the symptoms he had met with were due to long-continued concussion transmitted to the cord. After examining a great number of athletes he had invariably found that the knee-jerk was exaggerated, particularly among those who ran and walked.

Dr. Edward C. Spitzka referred to some practical features of the paper, and particularly to the tests used to locate the sprain. Conclusions drawn from a large number of cases were contradictory, and the matter was to a certain extent still obscure. Lateral flexion and torsion and transmitted concussion were of the utmost value. Within a year the speaker had seen one case of almost fatal collapse from severe transmitted concussion. The spinal deformity was often very slight and escaped observation, while producing serious nervous symptoms due to slow hypertrophic changes.

Dr. A. D. Rockwell said that concussion of all kinds might be immediately followed by complete paralysis. When he was surgeon in a cavalry regiment, in the late war, one of the men was injured while his horse was jumping a ditch. There was complete paralysis at once, and the man was carried for several days in an ambulance. Partial recovery gradually took place. The speaker had seen the man again a short time ago, and learned that he had always been more or less of an invalid, suffering from pain in the spine on pressure, from melancholia, and from neuralgic symptoms. This condition had been present ever since the time of the injury. As to the treatment of cases such as the author had described, he thought that the actual cautery, when properly applied, gave the best results. He had used it in the instance narrated with direct benefit.

Dr. Dercum thought the tendency was to look for some cause for these symptoms other than the right one. If physicians would examine the spinal columns more carefully in patients complaining of the symptoms he had described, diagnostic points would usually be determined.

NEW YORK ACADEMY OF MEDICINE.

SECTION IN ORTHOPÆDIC SURGERY.

Meeting of April 17, 1891.

Dr. Samuel Ketch, Chairman.

Obscure Disease of the Hip.—Dr. H. L. Taylor presented for diagnosis the case of a boy who was taken suddenly sick without known cause, on September 12th last, with a chill and irregular fever, which was soon followed by severe pain and swelling about the upper part of the thigh, especially in front. He was examined late in November, when he presented hardness and swelling of the upper part of the thigh with some œdema, and, at times, below the knee; there was fluctuation on the outer aspect of the thigh five inches below the anterior superior spine, and a tablespoonful of serum was several times withdrawn. The thigh was extremely flexed, abducted, and everted, and there was but little hip motion, but no muscular spasm. The patient improved in health rapidly, the inflammatory symptoms subsided, and the deformity was reduced to a moderate one by rest in bed with gentle counter-extension. The boy now walked with a considerable limp, but without support. There was a large, hard swelling connected with the right side of the pelvis, found on pressing above Poupart's ligament, and also above and in front of the hip. The patient's health was good.

Dr. A. B. Judson thought that the abduction and fixation present indicated articular osteitis of the hip, obscured in this case by unusual deportment of the abscesses.

The Chairman thought it was very unusual for hip disease to come on with such subacute symptoms, and the history seemed to point rather to some infectious disease than to a chronic joint lesion.

Thomas's Splint in Knee and Ankle Diseases.—Dr. Royal Whitman presented a series of cases illustrating the treatment of knee- and ankle-joint disease in young infants by an adaptation of Thomas's splint. He maintained that by the routine use of extension, not merely for its effect on the contracted knee and as a factor in the production of rest, but for the purpose of retaining the brace in position, instead of using the ordinary shoulder-strap, the constant shifting of the ring which occurred in infants was avoided, and hence the irritation of the skin and motion at the diseased joint were reduced to a minimum. He advised the use of the brace in cases of ankle-joint disease, even when the infant had not begun to walk, on the principle that children, long before they walked, were making constant attempts to stand, and, in creeping or otherwise, exposed the joint to injury.

The brace was made of light material, with two leather straps attached to the foot-bar. The extension plasters were applied to the leg, usually below the knee, the leg was firmly bandaged from the toes to the groin, and the brace was applied, with sufficient extension to hold the ring firmly in its place. The leg and brace were then firmly bandaged to one another, from the foot to the ring. Such an arrangement provided rest, compression, and protection, the effect of which in painful, contracted, and suppurating joints was at once apparent. In ankle-joint disease, the foot being at a right angle to the leg, a well-fitting plaster bandage was first applied.

It seemed to the speaker that the treatment of joint disease in infancy should be carried out on the same principles as applied to older children, and that in cases of knee- and ankle-joint disease the conditions were most satisfactorily met by the Thomas brace. With ordinary care, its use was attended with no difficulty, and it was not unusual to see infants of from fifteen to eighteen months of age walking about on the brace and high shoe without discomfort.

Dr. V. P. Gibney said that his clinical experience had taught him that it was almost impossible to hold the limb down with plaster of Paris in small children, for, notwithstanding the performance of tenotomies, as soon as the plaster became soft, which it would do speedily, as a result of the dribbling of the urine, and from other causes, the limb would begin to flex again. This adaptation of the Thomas splint he considered an admirable one.

Dr. John Ridlon said that this method of employing traction had been used by Thomas years ago, but more recently that surgeon had preferred to straighten the limb, with or without an anæsthetic, and then put it up permanently in a straight position with absolute immobilization, and with as much traction as could be obtained by a full-length caliper splint. He thought that direct backward pressure, with a pad above and below the knee and a strap behind the knee, was better than the method of bandaging adopted in one of the cases presented. For the ankle-joint cases, he thought a metal splint was more satisfactory than one of plaster of Paris. He had repeatedly tried plaster of Paris in these cases, and had found that it failed to keep the limb straight.

Dr. Judson doubted whether in larger children the splint shown could be relied on to secure both fixation and protection.

Dr. A. M. Phelps disagreed entirely with Dr. Ridlon as to the superiority of a metal splint over the plaster of Paris. He had used the Thomas splint for the past four years as a protection to the joint, but he did not approve of producing extension by it, as this caused intra-articular pressure. His plan was to reduce the deformity under anæsthesia, and then apply plaster of Paris. He did not think the splint exhibited was any better than plaster of Paris for small children before they began to walk.

Dr. W. R. Townsend said that it was because they had experienced so much trouble from excoriations in the use of plaster of Paris at the hospital that Dr. Whitman had devised this arrangement.

Dr. N. M. Shaffer saw no necessity for either this splint or one of plaster of Paris. There had been no trouble from the apparatus which he had employed in his practice, and he thought it gave even better protection than the Thomas splint. The deformity was usually made too important a factor in the treatment. A study of Nature's methods would show that the deformity should be reduced by modifying, rather than by increasing, the intra-articular pressure, and Dr. Whitman committed an error in attempting to reduce the deformity quickly, for, in the majority of cases, Nature endeavored to warn us against this rapid reduction of the deformity by establishing a condition of muscular resistance. The slow method of reducing the deformity, in his opinion, gave better ultimate results.

The Chairman indorsed the views of the previous speaker. Some of these patients had been stated not to have had reflex spasm, but he could not understand how this could be the case, as in his experience spasm had invariably been present. The apparatus acted upon the principle of the simple perineal crutch, and only emphasized the necessity for using this crutch in all these cases.

Dr. Whitman said that the only claim to originality which he made was in the manner of holding the brace firmly against the groin. He was fully convinced that plaster of Paris was very undesirable for young infants, as the joint was often swollen to the size of the thigh and the plaster speedily worked down and became loose. However beautiful might be the theory of increasing the intra-articular pressure by traction made with this splint, the fact still remained that while the limb was being brought down these children were comfortable, their general condition improved, and the joint diminished in size. The bandaging to which Dr. Ridlon had alluded was not for the purpose of straightening the leg, but to hold the brace firmly. He considered that the deformity *was* of much importance, and that the sooner it was reduced, especially in knee disease, the better. If the patient was seen moderately early one could be sure that recovery without deformity would occur, with the exception of some shortening.

Paresis of the Femoral Adductors from Poliomyelitis.—Dr. Gibney presented a case of anterior poliomyelitis which had so affected the adductor group of muscles as to cause marked deformity of the limb. When six years old the patient was reported to have had a high fever accompanied by inability to move the legs. This condition rapidly improved, and then it was noticed that the child could use the limbs but little. The speaker had first seen the case on November 16, 1887, at which time there was complete adduction of the limb, the hamstrings were considerably shortened, and there was some flexion at the hip. Shortly after he began treatment by stretching the hamstrings the patient passed under the care of a distinguished general surgeon, who presented her to the Surgical Society as having congenital dislocation of the hip. She returned after a time and the extension was resumed. On November 22, 1889, she was anæsthetized, and by an open incision over the tensor vaginæ femoris and the flexors of the thigh he was able to divide the contracted tissues freely, so that the limb could be brought into good position, when he applied plaster of Paris from the axilla to the toes. After two or three weeks a brace was applied. On October 22d another operation was necessary. On March 26, 1890, the limbs were parallel, and at present it was difficult to produce any luxation of the hip joint; the limbs were of equal length, and the child could walk fairly well without any apparatus. He thought the case showed the advantages of protecting the weakened muscles for a long time.

Dr. Shaffer said that he wished to emphasize the importance of the part played by the tensor vaginæ femoris, this muscle and the sartorius often being the principal opponents to good locomotion. He had seen several cases in which the general surgeon had made a diagnosis of dislocation of the hip, owing to the extreme malposition of the thigh. Division of the tensor vaginæ femoris and of the muscles attached to the anterior spine of the ilium was the only method of treating these cases successfully, and, in order that the division should be thorough, he preferred the open method to the subcutaneous.

Congenital Deformity of the Knees.—Dr. Gibney presented two cases of arrest of development. In the first, in addition to some deformity of the hands, the patellæ and the knee joints were rudimentary. There was limitation of motion, inward rotation of the femur, and outward rotation of the tibia, and the patella was displaced to the outer side of the femur. There was the usual marked degree of knock-knee, with double congenital equino-varus. The patient was admitted into the hospital on June 18, 1889, and at that time was eight years of age and in good general condition. After a number of tenotomies and other minor operations it was found that, although there was some improvement, there was still marked knock-knee, with obstinate equinus. Accordingly, on October 28th, the astragalus and a portion of the cuboid were removed from the right foot, and the same operation was performed on the left foot on January 19th of the present year. She was now walking with apparatus, but bade fair to have a good pair of limbs.

The second patient was admitted on September 20, 1887, and on January 1, 1888, chloroform was administered and the tendo Achillis divided. It was subsequently treated by stretching, but the deformity recurred, and on November 7, 1890, the greater part of the astragalus was removed. She was now doing well.

Dr. Phelps congratulated Dr. Gibney on the very excellent results which he had obtained, and remarked that they seemed to demonstrate the superiority of this method of treatment by the removal of the astragalus.

Superextension after Tenotomy.—Dr. Gibney also presented a case of club-foot, and remarked that he never felt sure of having thoroughly relieved the deformity until a condition of marked calcaneus had been secured before the patient was discharged from the hospital.

Dr. Shaffer said that superextension *immediately* after the operation of tenotomy was not unattended by risk, for one case of severe equino-varus which he had treated in this way had resulted in an elongated tendon.

Dr. R. H. Sayre said that he had called attention in a paper to the fact that it was not wise to put the foot in a position of complete extension, because it was likely to result in too long an attachment between the calf muscles and the foot. The best position was with the foot at right angles to the long axis of the tibia. Non-union was most commonly due to the bandages being applied so tightly that the space between the divided portions of the tendon was occluded. If this fault in dressing was avoided there was always a sufficient bond of union, even though the space was three inches long, as it had been in a patient whom he had already shown to the Section.

Dr. Phelps said he agreed thoroughly with Dr. Gibney as to the advantages of immediate superextension. It was the subsequent use of traction machines that pulled out the tendons into thin bands. The space between the divided ends of the tendon was immaterial so long as the operation was performed antiseptically and the dressings were carefully applied. He had practiced over-correction in one hundred and sixty-one cases of open incision, and in not a single instance had the tendo Achillis failed to unite.

Neuromimesis.—Dr. W. R. Townsend presented such a case. A girl, fourteen years of age, having a good family history, fell, on the the 29th of last January, twisting the foot and producing a slight excoriation on the ankle. She was taken to a hospital, where the injury was treated with plaster of Paris for five weeks. On removing the plaster, the foot was found to be much distorted. She then came under the speaker's care, and an examination by Dr. B. Sachs indicated that the deformity was entirely due to psychical causes. There was now a slight equinus, and the extreme contraction of the tibialis produced varus. Only slight force was required to bring the foot into the normal position, and the patient could retain it in this position by the power of the will for a few moments. There had been but little improvement so far in the case, which had been treated only by the application of blisters to the lower end of the spine and by the administration of tonics.

In answer to a question from Dr. Ridlon, Dr. Townsend said that the genitals had not been examined.

Dr. Ridlon said that he had asked this question because in a recent case inflammation of the vulva had seemed to be the cause of the trouble.

Dr. Shaffer said that some time ago he had presented a somewhat similar deformity of the foot, but in his case there was a rhythmical action of the muscles of the thigh.

Dr. H. L. Taylor thought the diagnosis was unquestionably correct. Some years ago he had had a very similar case, which began with a slight sprain, and which was completely cured in about a month.

Dr. R. H. Sayre called attention to the remarkable resemblance which this purely muscular deformity bore to that seen in cases considered to be incurable except by the removal of considerable portions of bone. In this case the bony prominences were marked, and yet the bones were not luxated.

Dr. H. W. Berg spoke of the possible medico-legal interest that might attach to such cases.

Infantile Hernia.—Dr. Charles N. D. Jones, of Brooklyn, presented a child upon whom he had operated for infantile hernia. When the child was about three months old a swelling appeared in his left groin, and gradually extended downward until it finally reached the scrotum. The mother noticed that the swelling increased along the course of the inguinal canal when the child made any violent effort which brought into play the diaphragm or abdominal muscles. Some weeks later the child was fitted with a truss, but the instrument did not prevent the reappearance of the swelling in the scrotum. In this case, as persistent efforts during the past year had failed to retain the hernia, it was decided to close the canal by operative measures. The operation was done on December 20, 1890. After a thorough cleansing of the field of operation, the patient was anæsthetized, the bowel reduced within the abdomen, and an incision made sufficiently large to expose the external abdominal ring. After the preliminary incision the operator found, contrary to his expectation, that the sac was distinct from the tunica vaginalis. It was carefully separated from the testicle and cord, and then opened transversely about an inch above the distal extremity. After a careful exploration to see that there were no adhesions, the sac was ligated with catgut and removed. The pillars of the ring were then brought together with catgut sutures, leaving sufficient space for the passage of the cord. The wound was packed with iodoform gauze and treated by the open method. Convalescence was free from fever. The child, who was three years of age, was presented to the Section. The wound was firmly closed, and there was no tendency to a recurrence of the hernia. A tight phimosis had been operated upon at the same time as the hernia.

Rhachitic Deformity of the Legs.—Dr. Jones also presented a boy, six years of age, who was admitted into the Children's Hospital on September 10, 1890. He had a rhachitic history, and all the bones presented rhachitic deformity. The teeth were deficient, and the femora presented anterior and lateral curvatures, with great depression of the internal condyles. Below the knee, in each leg, there was a marked anterior and inward angular deformity of both bones. On October 21st he performed supracondyloid osteotomy of both femora. The wounds were dressed antiseptically, put up in plaster splints, and suspended by weights and pulleys, as recommended in an article published in the *Annals of Surgery* for April, 1889. On November 15th he performed cuneiform osteotomy on the tibiæ and fibulæ of both legs for the correction of the principal deformity. The wounds were dressed according to the method recommended by von Bergmann—viz., they were thoroughly packed with iodoform gauze, dressed antiseptically, and left until the following day, until all hæmorrhage had ceased, when the bones were united with catgut sutures, the periosteum and the skin wounds were sutured. and the limb was enveloped in a mass of sublimate gauze. Plaster bandages and suspension were then applied as before. Recovery was uninterrupted. On January 9th an additional section of the bones of both legs was made to correct a slight remaining deformity, and the same after-treatment was adopted. The patient presented a very tight and adherent prepuce, which was a constant source of irritation to him. At the first operation he was circumcised. This apparently slight operation the speaker considered important, as he had found it necessary to perform it in the case of every deformity in a male child which had come under his observation.

The Place of Fixation in the Traction Treatment of Hip Disease.—This was the title of a paper by Dr. Robert W. Lovett, of Boston. (To be published.)

Dr. Ridlon approved of the author's observations upon the traction splint, but the outline of the splint which he had exhibited was certainly improper. During the last few years he had not found occasion to employ more traction than was obtained by the tendency of the Thomas splint to work downward. If the splint was not supported by shoulder-straps, it gave sufficient traction for the successful treatment of fractures of the upper part of the thigh bone. He questioned very much the advisability of allowing the patient to walk around, if he had sufficient muscular spasm to indicate the necessity for the application of a special traction apparatus.

Dr. Shaffer thought that the author's experiments to determine the amount of motion occurring at the joint were fallacious, as they did not take into account the considerable arc of motion produced by the flexibility of the lumbar spine. He thought that his own experiments upon this point had not yet been contradicted. In these he had applied the apparatus to a healthy hip joint on a person whose opposite joint was ankylosed. A person with an ankylosed hip could walk or even dance, owing to the flexibility of the neighboring parts.

Dr. Judson thought that the traction splint secured fixation, but not immobilization. He thought it was important to make this distinction. Immobilization was found in union after fracture and in ankylosis, while fixation was produced by reflex muscular action and by traction. It was almost impossible to immobilize a joint by any application of mechanical surgery. Fixation implied a degree of mobility which allowed of a reduction of the deformity. When applied in a painful case, it had a wonderful effect in relieving the patient's distress, which was partly from pain and partly from a sleep-destroying apprehension of disturbance of the joint.

Dr. Phelps said that, as he believed it was a cardinal principle in the treatment of all joint disease that the affected part should be immobilized, he could not understand what the author meant by "motion within certain limits"; he saw no reason for the joint being moved at all. During the period of pain, all agreed that rest in bed was the proper thing, and yet, if this represented the best method of treatment, why employ a splint which would not carry out this idea? More than 75 per cent. of the patients recovered without deformity. Again, if extension was the proper thing, why not counteract the action of the abductors and adductors, which caused the spasm, by making use of lateral traction? He did not think the statistics about abscess collected by the author carried much weight, because in Boston these patients were sent to institutions at an earlier stage of the disease than they were here.

The Chairman referred to an article by Dr. Judson in which it had been shown quite conclusively that the effect of mechanical treatment, when applied sufficiently early, was to prevent abscess, and that it even prevented the opening of many abscesses that had already formed at the time the treatment was begun. Long before the Thomas splint or the lateral-traction splint was known here, Dr. Sayre and Dr. Davis had obtained cures without deformity, by means of the traction apparatus commonly employed, and he would not, therefore, accept the view that almost all the cases treated by this much-abused traction splint had pursued an unfavorable course and ended in deformity.

Dr. Berg spoke in favor of the use of apparatus which did not require any elaborate fitting; for, as he said, some braces required so much fitting that they rarely fitted.

Dr. H. L. Taylor said that he was glad to be able to approve of nearly all the points made by the author in his excellent paper. The hip joint required some form of fixation as well as extension when acutely inflamed. In most cases the amount of fixation afforded by the long counter-extension splint, combined with short periods of rest in bed when necessary, was sufficient. Dr. C. Fayette Taylor had never maintained that his long splint gave positive immobilization of the hip, but the speaker was surprised at the range of motion found under its use by Dr. Lovett, and would wait for further experiment before admitting that the question of the amount of motion allowed was settled. In very bad cases or unruly patients in dispensary practice, the apparatus shown by Dr. Lovett would no doubt prove useful. The speaker would emphasize the advantage of properly applied counter-extension in the progressive stage of hip-joint disease, in order to restore the hygiene of the joint and prevent deformity.

Dr. Lovett said he had used one perineal pad instead of two, because his object had been to find the fixative power of traction, and not that of any special splint, and he thought his experiments, so far as they had gone, were in the proper direction. With regard to the question of abscess, he should have added that the 170 cases of abscess mentioned included those occurring in patients admitted for a number of years past, at least since 1880.

Kyphosis.—Dr. T. Halsted Myers presented a specimen showing an upper dorsal kyphosis with the cord *in situ*. The patient had had muscular weakness of the legs and exaggerated knee-jerks only. The specimen showed that the pressure had been made by the body of one vertebra, and that if a laminectomy had been done, the arches of at least four vertebræ would have had to be removed. It also showed that the pressure was entirely anterior, and that therefore, as there was considerable room posteriorly, the operation would not have benefited this patient. He thought a sharp bend in the cord, even without direct external pressure, might cause vascular changes, from the increased pressure on the concave side, sufficient to cause symptoms.

Dr. Samuel Lloyd said that in many of the cases in which an operation had been performed, sufficient bone had not been removed, and that this had been the difficulty with two of Kraska's cases. As a matter of fact, it had been found that the removal of the posterior portion of the spinal column, the laminæ, *did* relieve the pressure on the cord.

Book Notices.

Text-book of Ophthalmoscopy. By Edward G. Loring, M. D. Edited by Francis B. Loring, M. D. Part II. Diseases of the Retina, Optic Nerve, and Chorioid: their Varieties and Complications. New York: D. Appleton & Co., 1891.

The first part of this work was published in 1886, and while eagerly waiting for the appearance of the second volume, and the completion of the work, the profession was shocked to learn of the sudden death of its talented and gifted author. It is a matter of most sincere regret that Dr. Loring did not live to complete his labor of love, but his fellow specialists will be grateful to the editor of this second volume for the opportunity of reading all that the author left behind him, even in its uncompleted state. Few ophthalmologists in this country have been so well equipped by nature, education, and well-trained powers of observation to undertake the task of writing a work on ophthalmoscopy as the lamented author of this work was. This was proved by the success which followed the appearance of the first volume, and the cordial words of praise which its perusal evoked, and we look for the same success for this second volume even in its unfinished state. Part I considered the normal eye, the determination of refraction by means of the ophthalmoscope, the diseases of the media, physiological optics, and the theory of the ophthalmoscope. The present volume takes up the discussion of the subjects of diseases of the retina, optic nerve, and chorioid, their varieties and complications. Chapter I is devoted to the retina in its pathological state, including disturbances of all kinds in its vascular system, from hyperæmia to atrophy of the vascular walls themselves. The relations existing between the caliber of the vessels and the intra-ocular tension in its various stages are very thoroughly discussed, attention being called, among other points, to the strange anomaly of a normal or reduced diameter of the arteries in cases of diminished intra ocular tension. Dr. Loring thought that the increase in the length of the vessels occasionally noted was due to some inherent condition of the wall of the vessel which caused its elements to yield to the pressure of the circulation in a longitudinal as well as in a transverse direction, and we must accept this explanation until a better one is found. His treatment of the subject of the changes in the light-streak seen upon the center of the retinal vessels is very full, and from his observations he was led to regard the absence or presence of the light-streak as an important sign in the diagnosis between troubles in the overlying media, especially in the vitreous, and haziness in the retina itself. There is an excellent description of the three principal forms of inflammation of the walls of the blood-vessels. Embolism and thrombosis of the retinal vessels are also discussed in a masterly manner, and the reviewer would call special attention to the wood-cuts illustrating this portion of the chapter, which are admirable.

Chapters II and III are devoted to a consideration of irritation and inflammation of the retina in their general aspects, the latter being divided into the sthenic and asthenic forms.

In Chapter IV the author describes very fully the different varieties of retinitis, and we are glad to see retinitis hæmorrhagica regarded rather as a symptom than as a disease. An admirable account is here given of so-called septic retinitis, or embolic panophthalmitis, occurring in pyæmic conditions of the system and due to capillary embolism.

In Chapter V we are introduced to diseases of the optic nerve, and there is a very full discussion of the ophthalmoscopic, macroscopic, and microscopic appearance of the optic nerve and sheaths in papillitis and neuritis proper. The very important disease known as retro-bulbar neuritis receives well-deserved attention, as do also the various theories which have been advanced from time to time in explanation of the phenomena of "choked disc," or papillitis.

With Chapter VI we come to the subject of atrophy of the optic nerve, in all its complications, and its effects upon the field of vision. Under this head is considered the subject of glaucomatous excavation of the optic nerve. Here the reviewer feels called upon to make his first adverse criticism, in regretting that so small a space is given to a discussion of the ophthalmoscopic evidences of glaucoma. We feel sure that, had the author lived to complete and revise this portion of his work, we should have had a much more exhaustive treatment of the subject of glaucoma.

Chapter VII closes the volume and treats very briefly of certain affections of the chorioid. No mention is made of purulent chorioiditis, rupture of the chorioid, subchorioidal hæmorrhages, chorioidal tumors, or cysticercus, and none of glioma of the retina. We are thankful for what we have, but regret the incompleteness of the work. We miss the elaboration and elegance of the first part of the work; but too much praise can not be given to the beauty of the illustrations, most of which were drawn by Dr. Loring's own hand. The editor has done wisely in publishing the notes as they were left by the author, without attempting to complete the work.

The book is beautifully printed on thick paper, with wide margins, and there is a wealth of illustration all through the volume. The colored plates are extremely well done. The reviewer feels obliged to make one adverse criticism, from the oculist's standpoint, in regard to the paper used in the manufacture of the book. This is glazed, and trying to the eye, especially by artificial light. A dead white or cream surface would be much better.

A full and satisfactory index is a very useful aid to the reader.

A Treatise on the Diseases of the Nervous System. By William A. Hammond, M. D., Surgeon-General, U. S. Army (Retired List), etc. With the Collaboration of Græme M. Hammond, M. D., Professor of the Diseases of the Mind and Nervous System in the New York Post-graduate Medical School and Hospital, etc. Ninth Edition, with Corrections and Additions. New York: D. Appleton & Co., 1891.

Neurology has advanced with rapid strides during the past five years. Were any proof needed of this fact, it would be sufficient to look through this new edition of Dr. Hammond's well-known work. It has been, as he states, thoroughly revised and brought up to the present time.

We note especially his changed views on the pathology of myxœdema and pseudo-hypertrophic paralysis.

There are also several new chapters, among which may be mentioned those on syringomyelia, acromegaly, and Thomsen's disease. The chapter on syringomyelia is particularly to be commended. It not only contains an excellent description of the disease, but is embellished by a reproduction of Van Gieson's admirable drawings, showing the lesions throughout the cord in his case.

Dr. Hammond's clear, straightforward style makes the book especially valuable for the student and general practitioner.

BOOKS AND PAMPHLETS RECEIVED.

Collected Contributions on Digestion and Diet. By Sir William Roberts, M. D., F. R. S., etc. Philadelphia: Lea Brothers & Co., 1891. Pp. xii–261. [Price, $1.50.]

A Text-book of Practical Therapeutics, with Especial Reference to the Application of Remedial Measures to Disease and their Employment upon a Rational Basis. By Hobart Amory Hare, M. D., B. Sc. Professor of Therapeutics and Materia Medica in the Jefferson Medical College, of Philadelphia, etc. Second edition, enlarged and thoroughly revised. Philadelphia: Lea Brothers & Co., 1891. Pp. xii–17 to 658 [Price, cloth, $3.75; leather, $4.75.]

The Surgical Treatment of Wounds and Obstruction of the Intestines. By Edward Martin, M. D., Instructor in Operative Surgery, University of Pennsylvania, etc., and H. A. Hare, M. D., Professor of Therapeutics, Jefferson Medical College, etc. Philadelphia: W. B. Saunders, 1891. Pp. 13 to 169. [Fiske Fund Prize Dissertation, No. xl; price, $2.]

Massage: A Primer for Nurses. By Sarah E. Post, M. D., Lecturer before the Training Schools for Nurses connected with Bellevue Hospital, Mt. Sinai Hospital, St. Luke's Hospital, and Charity Hospital, New York. Second edition, with Seven Original Photo-plates. New York: The Nightingale Publishing Co., 1891. Pp. 7 to 51.

Miscellany.

Fibro-glandular Hyperplasia of the Prostate.—At a meeting of the Section in Pathology of the Royal Academy of Medicine in Ireland, on January 16th, Mr. Pattcson showed portions of an enlarged prostate removed by suprapubic cystotomy by Mr. Tobin, in St. Vincent's Hospital. The patient, who was sixty years of age, had suffered great distress for many years. On opening the bladder three large, hard outgrowths from the median portion of the prostate were found, completely blocking the urinary outlet. They were situated closely together on broad bases of attachment. They were removed with a wire écraseur, and the patient made an excellent recovery, with relief from all his more distressing symptoms. The parts removed were irregular in shape, the largest almost round, its transverse measurements being 3·5 × 3 ctm.; the next largest more quadrilateral in shape, 4 × 3·2 × 1·5 ctm. in its different diameters. The three together weighed at time of removal 10 drachms. The surfaces were for the most part smooth, in spots somewhat irregular and nodular. They showed a firm surface on section. Microscopic examination showed a marked increase in the number and size of the glandular acini, the growth in parts bearing a striking resemblance to the earlier stages of ovarian adeno-cystomata. In other parts the fibrous and muscular elements had developed at the expense of the glandular, the fibrous hyperplasia being, however, the most prominent feature. The epithelium lining the acini was of the columnar type in general, but in some of the cystic portions of the tumor, where active proliferation was taking place, the epithelial lining was composed of several rows of irregularly shaped cells, the basement layer alone showing a distinct columnar shape. Having regard to the excessive glandular formation shown in many parts, quite out of proportion to the growth of the fibro-muscular stroma, it seemed justifiable to class this tumor as a fibro-glandular hyperplasia of the gland, constituting the prostatic adenoma of some Continental pathologists.

The Massachusetts Medical Society will hold its one hundred and tenth annual meeting in Boston on Tuesday and Wednesday, the 9th and 10th inst., under the presidency of Dr. Amos H. Johnson, of Salem. The Shattuck lecture will be delivered by Dr. Edward Cowles, of Somerville, and papers are to be read by Dr. W. H. Pierce, of Bernardston, Dr. J. A. Jeffries, of Boston, Dr. C. F. Withington, of Roxbury, Dr. R. W. Greene, of Worcester, Dr. H. F. Vickery, of Boston, Dr. Paul Thorndike, of Boston, Dr. Homer Gage, of Worcester, Dr. G. P. Twitchell, of Greenfield, and Dr. F. H. Williams, of Boston.

The Merritt H. Cash Prize offered by the Medical Society of the State of New York is open for competition to members of the county societies only. It amounts to $100, and is for the best original essay on any medical or surgical subject. The essay should be sent to Dr. George H. Fox, New York, chairman of the Committee on Prize Essays, prior to January 1, 1892. Each essay must be designated by a motto and accompanied by a sealed envelope, containing the name of the author, designated by the same motto.

Mortality in Cities in the United States.—The following table represents the mortality in the cities named, as reported to Dr. John B. Hamilton, Surgeon-General of the Marine-Hospital Service, and published in the Abstract of Sanitary Reports for May 29th:

CITIES.	Week ending—	Population, U. S. Census of 1890.	Total deaths from all causes.	DEATHS FROM— Phthisis pulmonalis.	Yellow fever.	Small-pox.	Varioloid.	Varicella.	Typhus fever.	Enteric fever.	Scarlet fever.	Diphtheria.	Measles.	Whooping-cough.
New York, N. Y.	May 23.	1,515,301	777	108	..	..	..	..	..	4	29	8	19	10
Brooklyn, N. Y.	May 23.	806,343	365	42	..	..	..	..	..	1	13	21	13	1
Boston, Mass	May 23.	448,477	217	30	..	..	..	..	..	2	1	6	1	1
Baltimore, Md	May 23.	434,439	198	22	..	..	..	..	..	3	..	6	..	3
San Francisco, Cal	May 16.	298.997	112	12	..	..	..	..	..	4	1	4	..	....
Cincinnati, Ohio	May 22.	296,908	129	18	..	..	..	..	..	5	..	5	..	1
Cleveland, Ohio	May 9.	261,353	109	10	..	..	..	..	..	3	2	5	..	....
Washington, D. C.	May 16.	230,392	90	11	..	..	..	..	..	..	..	..	1	2
Detroit, Mich	May 23.	205,876	71	4	..	..	..	..	..	..	..	5	..	....
Minneapolis, Minn.	May 23.	164,738	43	....	..	..	..	..	..	1	..	1	..	....
Louisville, Ky	May 23.	161,129	69	....	..	..	..	..	..	..	..	..	..	....
Rochester, N. Y.	May 23.	133,896	48	3	..	..	..	..	..	3	..	2	..	....
Kansas City, Mo.	May 23.	132,716	25	2	..	..	..	..	..	..	..	..	..	....
Providence, R. I.	May 23.	132,146	51	....	..	..	..	..	..	1	..	..	..	....
Indianapolis, Ind.	May 23.	105,436	39	4	..	..	..	..	..	..	..	3	..	....
Toledo, Ohio	May 22.	81,434	24	....	..	..	..	..	..	..	..	1	..	....
Richmond, Va.	May 16.	81,388	44	6	..	..	..	..	..	1	..	..	..	1
Nashville, Tenn	May 23.	76,168	29	....	..	..	..	..	..	..	..	..	1	1
Lynn, Mass	May 16.	55,727	19	2	..	..	..	..	..	..	..	..	..	....
Portland, Me.	May 23.	36,425	14	....	..	..	..	..	..	..	..	..	1	....
Binghamton, N. Y.	May 23.	35,005	15	1	..	..	..	..	..	2	..	..	..	....
Yonkers, N. Y.	May 16.	32,033	10	1	..	..	..	..	..	..	..	..	..	....
Yonkers, N. Y.	May 23.	32,033	15	....	..	..	..	..	..	..	..	1	1	1
Mobile, Ala.	May 23.	31,076	14	4	..	..	..	..	..	..	..	..	..	....
Altoona, Pa.	Apr. 4.	30,337	19	....	..	..	..	..	..	1	..	..	..	....
Altoona, Pa.	Apr. 11.	30,337	7	....	..	..	..	..	..	..	..	..	..	....
Altoona, Pa.	Apr. 18.	30,337	14	....	..	..	..	..	..	..	..	..	..	....
Altoona, Pa.	Apr. 25.	30,337	19	....	..	..	..	..	..	..	..	..	..	....
Galveston, Texas	May 1.	29,084	20	1	..	..	..	..	..	..	..	..	1	....
Galveston, Texas	May 8.	29,084	13	2	..	..	..	..	..	..	..	..	..	....
San Diego, Cal.	May 16.	16,159	3	....	..	..	..	..	..	..	..	..	..	....
Rock Island, Ill.	May 10.	13,634	2	....	..	..	..	..	..	..	..	..	..	....
Rock Island, Ill.	May 17.	13,634	2	....	..	..	..	..	..	..	1	..	..	....
Pensacola, Fla.	May 16.	11,750	4	1	..	..	..	..	..	2	..	..	..	....

The Maine Medical Association will hold its thirty-ninth annual meeting in Portland, on Tuesday, Wednesday, and Thursday, the 9th, 10th, and 11th inst., under the presidency of Dr. Samuel B. Hunter, of Machias. Besides the president's address, the programme mentions papers by Dr. Irving E. Kimball, of Portland, Dr. John E. Walker, of Thomaston, Dr. Willis B. Moulton, of Portland, Dr. Joseph J. Cobb, of Milan, N. H., Dr. Addison S. Thayer, of Portland, Dr. Alfred Hitchcock, of Farmington, Dr. Walter E. Elwell, of Togus, Dr. George H. Shedd, of North Conway, N. H., Dr. George A. Phillips, of Ellsworth, Dr. Seth C. Gordon, of Portland, Dr. George A. Coombs, of Brunswick, and Dr. Thomas A. Foster, of Portland; also an oration, by Dr. Seth C. Gordon, of Portland.

The late Dr. Fordyce Barker.—The medical board of the New York Maternity Hospital has adopted the following resolution:

Resolved, That by the death of Dr. Fordyce Barker, Consulting Surgeon to the hospital, we have met with the loss of a warm personal friend, as well as of a valued counselor. Although unable, by reason of increasing infirmities, to take an active part in the work of the hospital, his interest in its welfare and in the branch of medicine in which he was so eminent never abated. In common with the whole profession we cherish his memory as that of a wise physician and a good man, who died full of years and honors.

To Contributors and Correspondents.—*The attention of all who purpose favoring us with communications is respectfully called to the following:*

Authors of articles intended for publication under the head of "original contributions" are respectfully informed that, in accepting such articles, we always do so with the understanding that the following conditions are to be observed: (1) when a manuscript is sent to this journal, a similar manuscript or any abstract thereof must not be or have been sent to any other periodical, unless we are specially notified of the fact at the time the article is sent to us; (2) accepted articles are subject to the customary rules of editorial revision, and will be published as promptly as our other engagements will admit of—we can not engage to publish an article in any specified issue; (3) any conditions which an author wishes complied with must be distinctly stated in a communication accompanying the manuscript, and no new conditions can be considered after the manuscript has been put into the type-setters' hands. We are often constrained to decline articles which, although they may be creditable to their authors, are not suitable for publication in this journal, either because they are too long, or are loaded with tabular matter or prolix histories of cases, or deal with subjects of little interest to the medical profession at large. We can not enter into any correspondence concerning our reasons for declining an article.

All letters, whether intended for publication or not, must contain the writer's name and address, not necessarily for publication. No attention will be paid to anonymous communications. Hereafter, correspondents asking for information that we are capable of giving, and that can properly be given in this journal, will be answered by number, a private communication being previously sent to each correspondent informing him under what number the answer to his note is to be looked for. All communications not intended for publication under the author's name are treated as strictly confidential. We can not give advice to laymen as to particular cases or recommend individual practitioners.

Secretaries of medical societies will confer a favor by keeping us informed of the dates of their societies' regular meetings. Brief notifications of matters that are expected to come up at particular meetings will be inserted when they are received in time.

Newspapers and other publications containing matter which the person sending them desires to bring to our notice should be marked. Members of the profession who send us information of matters of interest to our readers will be considered as doing them and us a favor, and, if the space at our command admits of it, we shall take pleasure in inserting the substance of such communications.

All communications intended for the editor should be addressed to him in care of the publishers.

All communications relating to the business of the journal should be addressed to the publishers.

THE NEW YORK MEDICAL JOURNAL, June 13, 1891.

Original Communications.

ADDISON'S DISEASE.*

By W. H. BERGTOLD, M. D.,
BUFFALO, N. Y.
ASSISTANT PATHOLOGIST, BUFFALO GENERAL HOSPITAL;
ASSISTANT IN PATHOLOGY, AND CURATOR OF THE MUSEUM,
MEDICAL DEPARTMENT, UNIVERSITY OF BUFFALO;
ASSISTANT ATTENDING PHYSICIAN, BUFFALO ORPHAN ASYLUM, ETC.

The following case is presented for two reasons principally: First, it is the duty of every member to contribute toward running the machinery of this organization, and this I give as my share; and, second, it gives an opportunity to present a case, worked out with some detail, of a rare malady, and thereby recall to the minds of some the possibility of the occurrence of this disease, and perhaps, I hope, inform others of the existence of a curious and interesting group of pathological changes.

In 1835 Addison, an English physician, described certain conditions which he found occurring simultaneously in the skin, the adrenals, and the sympathetics, together with symptoms referable to these last structures. Such a group of alterations has been named bronze-skin disease, Addison's disease, *melasma suprarenale*, etc. The following case was observed in the Buffalo General Hospital, and was the subject of an autopsy at my hands in the course of duties as assistant pathologist to the institution.

For the very complete clinical history of the case as now presented I am indebted to Dr. H. U. Williams, formerly house physician, and I must here give him due and proper credit.

Henry K., a German, unmarried, thirty-six years old, entered the hospital in October. The family history obtained was meager and of no importance. The patient had served in the German army for eighteen years. During that time he had what he described as a big boil, large as a fist, in his right axilla, which lasted six months. He also had "blue diarrhœa" and some acute inflammatory disease of the lungs. Of late years he had been employed as a butcher, also in breweries; he had been in the habit of drinking a great deal of beer. Fifteen months previously he had fallen into ice-cold water, and had not been well or strong thereafter.

At the time of entering he complained of pains, vaguely referred to the chest, of so-called rheumatic pains in his limbs, of loss of breath after any exertion, of loss of appetite, of constipation, and of a slight cough. Examination showed him to be a man of large frame, but rather thin. His face wore constantly an expression of anxiety. His complexion was a sallow brown, and further inspection found the skin similarly colored over almost the entire body, but much more decidedly on the back of the neck, the backs of the hands, the forearms, and the thighs. His back presented four oval scars, each about two inches and a half in diameter, where the patient said he had been blistered. These scars were deeply pigmented and their edges very sharply defined. The nipples and scrotum were brownish black, and the penis was nearly as black. The patient said his skin had always been brown in color. His tongue was clean and healthy in appearance. The thorax was very prominent, giving exaggerated resonance and other signs of emphysema. The apex beat was imperceptible, the heart sounds were scarcely audible, the pulse was very feeble. The abdomen was much depressed. His urine was acid, highly colored, of the specific gravity of 1·024, and had no unusual constituents. The stools were dark brown and solid, and seemed normal. The general appearance of the patient was one of extreme apathy. His appetite was poor. His extremities were chilly at all times. The treatment was by rest in bed and the use of tincture of nux vomica and tincture of strophanthus.

Until November 3d his condition was practically unchanged. On that day he began complaining of pain in the abdomen, not apparently very severe, which was relieved by hot applications and small doses of opiates. His countenance at this time wore an expression of distress which seemed out of all proportion to his suffering. His tongue had an even white coat. His pulse was much weaker.

November 4th.—The patient began having attacks of nausea and vomiting, and threw up partly digested curds of milk. The gastric contents were very sour in odor and acid in reaction, but hydrochloric acid was wanting. There was slight diarrhœa, the stools being light-yellow, soft, and having a fæcal odor. Some abdominal tenderness was present. The patient was extremely weak, and his pulse was almost imperceptible.

5th.—The patient still suffered from nausea and abdominal pain. His pulse was not improved. He was perfectly conscious and rational, and died at 4 P. M. During the time the patient was under observation his pulse ranged between 70 and 90, occasionally reaching 100. The temperature ran from 96° F. to 99·2° F. During the last few days it was constantly subnormal. A tentative diagnosis of Addison's disease was made shortly before death.

Autopsy.—Body fairly well nourished; *rigor mortis* present; scrotum very dark, nearly black; nipples and areolæ of breast dark brown; skin of the face and hands of a deep-bronze tint, and scattered over their surfaces were many small maculæ of a black hue; these spots were also present on the chest; axillæ not particularly darkened; no spots on the mucosa of the mouth; on the back were several large maculæ of the same hue, about 5 mm. by 5 mm.

Subcutaneous fat not markedly deficient. Arch of diaphragm on a level with the fifth intercostal space, right side, and the fifth rib on the left side. Thorax: Both pleuræ adherent laterally, posteriorly, and at the apex; adhesions firm and well organized, both sides similar. The heart had one small, but firm and well-organized, adhesion of the pericardium to the anterior ventricular surface; weight, three hundred grammes; very fatty; in diastole; and in the right cavity one large white clot. Mitral and aortic valves very slightly atheromatous, otherwise the endocardium seemed normal. Lungs normal, save a slight amount of emphysema, and containing no scars or nodules; bronchial glands enlarged and pigmented. The spleen seemed normal, save that the capsule was slightly opaque and thickened. Kidneys: Both small, firm; capsules adherent; pale in color; cortex diminished in thickness, containing no scars, nodules, or infarcts. Suprarenals: Each gland very greatly enlarged; dimensions and weight as follows: Right, weight, 70·50 grammes; height, base to apex, 5·2 ctm.; thickness at base from before backward, 5·2 ctm.; width at base, from side to side, 5·9 ctm. Left, weight, 38·50 ctm.; height from base to apex, 3·9 ctm.; thickness from before backward, 3·9 ctm.; width from side to side, 5·9 ctm. Each capsule was firmly adherent to its kidney, and the right closely bound to the liver above by old adhesions. Section of each adrenal presented a soft caseated center, with the cortex apparently normal, but injected. The stomach seemed normal. The intestines were slightly injected, but otherwise appeared normal; the mesenteric lymph nodes were very much enlarged.

---

* Read before the Buffalo Medical and Surgical Association, February 3, 1891.

An examination of the morbid histology of the tissues and organs of this case resulted as follows, the conditions placing themselves in two groups:

First, those common to a number of tissues and organs. Here foremost is a universal condition of great engorgement and injection, particularly of the abdominal viscera, where every blood-vessel seemed filled to its utmost with blood, and where the connective-tissue spaces also seemed to be packed in a similar manner.

A condition of endarteritis obliterans, periarteritis, and periphlebitis is next in order of diffusion. All of the organs examined showed more or less of these changes.

Second, the special changes. The spleen contained numerous areas of extravasated blood, considerable increase of its fibrous stroma, and several patches of hyaline degeneration, mostly affecting the Malpighian corpuscles. The splenic capsule was only slightly thickened. The liver presented considerable new connective tissue about the vessels and in the interlobular spaces; the liver cells were fatty; there were a few areas of small-round-cell formation, seemingly inflammatory, about the vessels, but not of the characteristic miliary tubercle structure; and the interlobular spaces were absolutely packed with red blood-cells.

In the kidneys it was found that much of the tube epithelium was swollen and granular; there was much new connective tissue in patches in the cortex, with small-round-cell areas, like those of the liver, just beneath the capsule, which was thickened, especially at the site of the adherent adrenal. The glomeruli were not abnormal. The lymph nodes at the root of the lung and of the mesentery were abnormally injected, and contained extravasations of blood. About the arteries of the cutis vera were areas of small-round-cell formation, while its connective-tissue spaces were packed with red cells. In the cells of the rete mucosum was deposited a thick layer of brownish-black pigment; there was also considerable of this pigment in the intercellular substance of the rete. Each adrenal—less in the right, however—presented normal tissue at the periphery of the organ, became granular farther toward the center, and in the medulla was caseous, being but a mass of *débris*, fat, and shrunken cells. There were no giant cells in any of the organs. A careful and exacting search for the bacillus of tuberculosis was made in all of the organs examined, and failed to show a single example. The usual method of staining was employed for this purpose. Gram's method also failed to reveal any of the ordinary micro-organisms.

Anatomically and microscopically, this is a case presenting the following features and conditions: Old pericarditis and pleuritis; pulmonary emphysema; slight chronic interstitial hepatitis; slight chronic interstitial splenitis; chronic diffused nephritis; tuberculosis of the adrenals, as evinced by small-round-cell formation; and caseation and pigmentation of the skin.

The clinical and pathological history just recited forms a very good picture of Addison's disease, though it is by no means typical. It is a disease of comparatively great rarity, there having occurred, in a record of ten years, but one hundred and twenty-six cases, as reported in the medical literature of the world and as collated by Averbeck.

This extreme rarity is also shown by statistics collected from all the great German cliniques, where the percentage of bronzed-skin disease was but three tenths per cent. in a thousand. Besides the case above reported, I have seen another of the most perfect type, which occurred in a member of my own family, and which I was compelled to watch from its veriest beginning until death. This case is not reported, because the writer was not present at the autopsy, and thus can not confirm the clinical diagnosis by anatomical proofs.

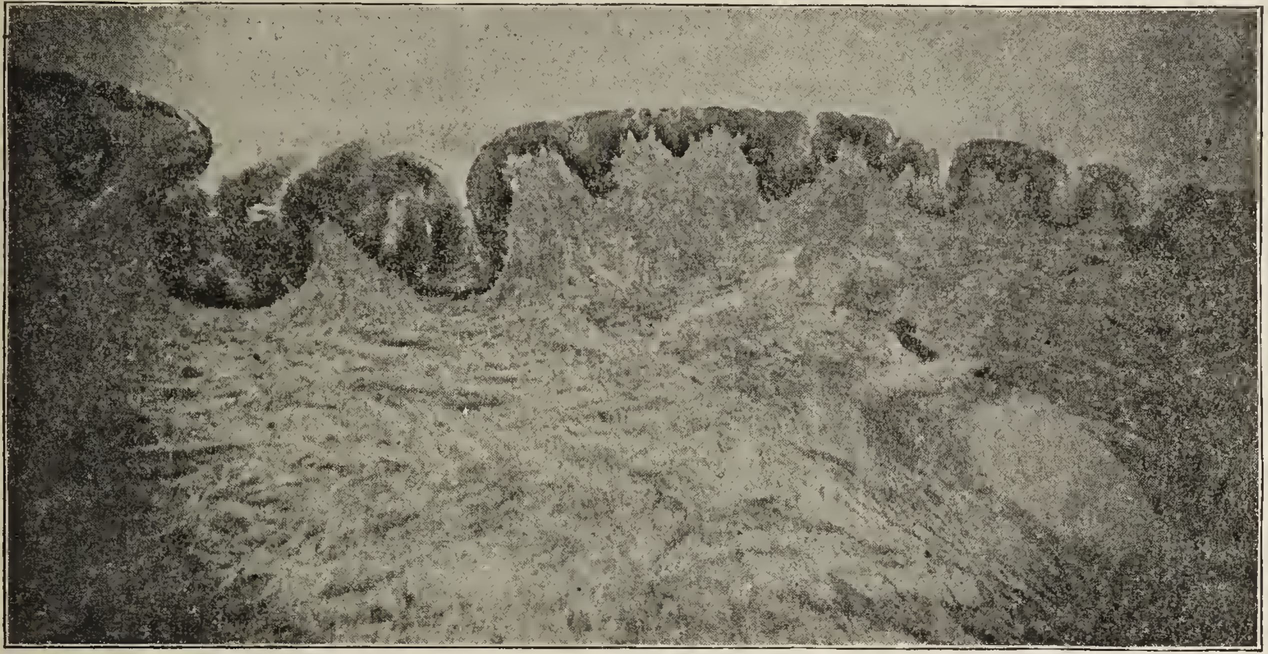
The disease occurs chiefly in the prime of life, and attacks males more frequently than females. It also seems to be more common among the poorer classes, though no level of society is exempt.

Many conditions, acting as supposed predisposing causes, have been mentioned—such as poverty, anxiety, poor hygienic surroundings, chronic gastric catarrh, etc. There are three sets of symptoms which are characteristic and which may be given as (1) great asthenia, with apparently insufficient cause; (2) marked digestive and nervous troubles; and (3) symptoms referable to the supposed altered blood supply and unequal distribution. The only sign which is at all pathognomonic is the change found in the skin and mucosæ when corresponding to a given type. It is a disease of extended duration, some patients living years after its commencement, while other cases may be of the so-called fulminating type, where the patient is taken ill suddenly, there is prostration of the most extreme kind, with great and rapid loss of flesh, a typhoid condition ensues, and death may occur within a few weeks. Such cases have been diagnosticated as typhoid fever and only recognized after death.

In such cases there is, of course, no splenic enlargement, or eruption, or characteristic of the stools which would lead to a diagnosis of typhoid, and, still, cases of true Addison's disease have been observed with considerable splenic tumor. It can readily be seen that such a case would present a picture of great diagnostic difficulty.

In critically examining the symptoms of this case, one is at once struck by several prominent changes; the extreme weakness and debility, both subjective and objective, call at once for a close scrutiny, and so severe were these distressing features that the case was shown in the clinic as one of simple weak heart. The marked change of the skin or bronzing, as named by Addison, was a prominent alteration, and, while not so evident and striking in this case as it sometimes is, yet was of sufficient extent to lead to a diagnosis. The usually severe disturbances of the stomach, such as nausea, vomiting, etc., did not appear until late, and this was also true in the other case which I was compelled to watch, as mentioned above.

The malady, as described by Addison, has a number of names, the synonyms varying according to the prominence given to any one symptom by the particular authority dealing with the subject. It is most commonly termed Addison's disease, or the bronzed-skin disease, though Addison himself named it melasma suprarenale.



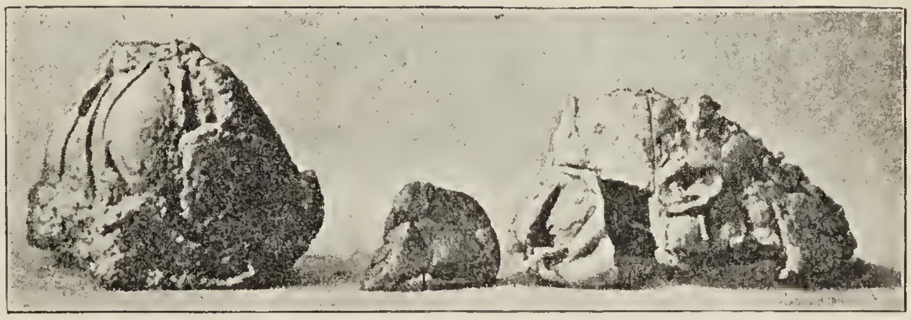
Section of skin from the scrotum, unstained, showing deposit of pigment in the rete mucosum, × 70. Photographed *ad nat.* W. H. B.

It has been denied by some that such changes constitute a disease *sui generis*, and if we bind ourselves by any hard lines concerning our ideas of what constitutes a distinct disease we may have trouble in proving a title to the distinctness of bronzed-skin disease as one separate and apart. There can be no question of the separateness of typhoid fever as a disease, for in it we always get the characteristic lesions in the alimentary canal, the peculiar run of fever, etc.; and if we expect to find *morbus Addisonii* following a parallel line, we can not call it a disease truly *sui generis*. That is to say, if we expect to find it pursuing such a regularity in the occurrence of its symptoms as is observed in the vast majority of typhoid cases, we can not call it a distinct disease with such a standard of comparison. If, however, we are permitted to characterize a group of signs and symptoms, or a majority of the same, as a disease or separate malady, then Addison's disease is good terminology and should remain.

During life we can only base a diagnosis on subjective and objective changes, as we now have no means of learning about the physical conditions of the suprarenals; we can only expect to have our diagnosis confirmed post mortem, when there ought to be found distinctive changes, and without which, however characteristic the other alterations may have been, we can not be justified in a diagnosis of true Addison's disease.

There is *apparently* a marked anæmia present, the palpebral conjunctivæ are pale and bloodless, the heart is excessively weak, and the vessels are but poorly filled. Flint has assumed, I take it—as evidenced by his placing the disease in a group of maladies affecting the hæmatopoietic system, along with simple anæmia, chlorosis, leucæmia, Hodgkin's disease, and pernicious anæmia—that there is an actual anæmia with Addison's disease. It doubtless seems presumptuous to question such a weighty authority regarding the correctness of his classification, and yet there is good ground for so doing. If the disease is placed in this class because there are alterations in the distribution of the blood, then such a disposal is correct; but, as the diseases among which it is placed by Flint are those of a primary blood dyscrasia, and as in Addison's disease the blood-changes, chemically, if there are any, come late and are secondary, then I believe the classification is not tenable. Greenhow states regarding this point: "So far, however, as I have been able to ascertain, the composition of the blood does not undergo any important alterations in uncomplicated cases," and he gives cases to back his statement.

The apparent anæmia is due probably to two factors—the weakened heart, which thereby forces less blood through the various tissues, and the enormous vascular dilatation which is assumed to exist in all of the abdominal organs, and which we believe undoubtedly does obtain, as proved by the microscopical examination of tissues from this case and others, and by analogous conditions produced by vivisection. In relation to this spurious anæmia Henry writes: "For there are diseases of which the most prominent symptoms are due to irregular distribution of the blood, a hyperæmia of one vascular district necessarily causing a correlated anæmia of another, while the constitution of the blood is normal. The most conspicuous example of this condition is furnished by Addison's disease, in which, owing to vascular (vaso-motor) paralysis, there is great accumulation of blood in the abdominal vessels and a correlated anæmia of the brain. Here also dyspnœa arises upon the slightest exertion, the muscles are weak and easily fatigued, and in extreme cases during the frequent exacerbations of the disease simply raising the head from the pillow is enough to induce syncope. Until very recent times these symptoms of Addison's disease were ascribed by the most eminent authorities to a high degree of anæmia. It is now well known that in such cases the constitution of the blood may be normal and that the symptoms are due to its irregular



Nos. 1 and 3 are the diseased adrenals. No. 2 is a normal gland from a child. Photographed *ad nat.* W. H. B.

distribution." The abdominal vascular dilatation, so to speak, is productive of most manifest changes; it is of sufficient extent, according to Merkel, to increase the capacity of these vessels so as to drain half of the whole body blood into the abdomen and thus act on the peripheral and other vessels practically as though the patient were bled to nearly that extent. We also find an easy explanation of the proneness of these cases to syncope, often of alarming severity, of the breathlessness on exertion, etc., in this unequal distribution of the blood. Henry says again in another place that "a blood of good quality if not properly distributed may give rise to some of the gravest symptoms of anæmia, such as pallor, syncope, cardiac palpitation, feeble pulse, neuralgia, etc. This is well seen in certain cases of Addison's disease."

Until the late stages of the disease we do not find any marked degree of emaciation, and usually not then unless there be complications; and it is in accordance with what one would imagine ought to occur, for there is an appreciable lessening of the amount of oxygen brought to the tissues, and therefore a diminution in the amount of fat consumed. On a line with this idea we find that the cellular tissue is usually well preserved, and on section of a peculiar hue and dry, indicative of a bloodless condition. A parallel condition obtains in chlorotic girls whose hæmoglobin is so reduced in quantity, or the red cells are so diminished in number, that there is brought to the tissues a markedly diminished quantity of oxygen, and we have a greatly lessened consumption of fat, and we therefore find the limbs and body well rounded and plump. Later on, however, in Addison's disease, through the interference with digestion by the excessive and persistent nausea and vomiting, the assimilation of food is so lessened that even the small amount of tissue consumed can not be compensated for and a mild or greater degree of emaciation may ensue.

The symptoms referable to the unequal distribution of blood are generally of long standing, and at times protean in their manifestations. There is often marked neuralgic pain in the chest, in the joints, and muscles, which has been explained on the ground of spinal anæmia. On the other hand, there exists often considerable tenderness in the hypochondriac and gastric regions, and the abdominal walls may be rigidly contracted and retracted to protect these tender spots. Assuming abdominal vascular dilatation to be present, it is easy to account for this tenderness in the same way as we explain the tenderness so often seen in the drunkard, resulting from hepatic cirrhosis.

You will notice that many of the symptoms just mentioned were seen in the present case. There were also found the marked shortness of breath, weariness, and headache. Concomitant with these various symptoms, dependent on vascular changes, are often found others of similar origin—such as cold extremities, subnormal temperature, weak pulse, soft and small arteries, loss of memory, dyspnœa, etc.

In this connection it is proper to mention that with a condition almost amounting to stasis of the circulation in the abdominal organs we ought to find certain histological changes in them, and that this surmise is true we are convinced by the appearances of the tissues of the present case.

The patients often suffer from constipation alternating with diarrhœa. The symptom, however, which appears usually the first, and which steadily progresses, with remissions at times, is a profound asthenia. In the only other case which I have seen this was very marked and noticeable, the patient dragging himself about, sinking into the first chair at hand with a sigh, and complaining almost constantly of his great exhaustion. We frequently find present most manifest indications of gastric and hepatic congestion and of perverted gastric nerve supply. An excessive nausea and vomiting may appear which yields to no treatment, and which may be so severe as to carry the patient off. At times this symptom is less grave and is subject to the same kinds of remissions as those of the general symptoms, and may not appear until late in the disease. The tongue remains clean and smooth, and in marked contrast to what would be its condition if the gastric trouble depended on an organic lesion.

The changes noticeable in the skin and mucous membranes are remarkable and striking, and have given to the malady one of its names. Patients who may have previously been fair begin to assume a brownish hue, at first like a tan, or perhaps somewhat similar to the colored circles observed about the eyes of the mentally tired. This color deepens slowly until it may be dark brown or even blackish; it may be subject to remissions corresponding to those of the general symptoms of the patient, but each time it leaves the skin a little darker, until the integument, in selected portions, may be as dark as that of an East Indian or an Arab. The colored portions do not terminate abruptly, but shade off into the surrounding color of the skin, which meanwhile remains smooth, soft, and moist. This pigmentation has a predilection for those parts which are the deepest colored normally—such as the mammary areolæ, axillæ, scrotum, and penis, though it may be universal—and for the exposed portions of the body, viz., the backs of the hands and the face and neck. If one questions and examines a patient concerning scars, blisters, etc., he will find that such localities are deeply pigmented, and in a circumscribed manner, the color stopping abruptly at the scar line, etc.

The present case showed this peculiarity in a bronzing of blister scars on the back. There is also included in the list of pigment changes the occurrence of small, round, or irregular maculæ, of a dark seal-brown or black tinge, seated on, especially, the backs of the hands, on the face, and the mucosa of the mouth.

These spots in the mouth might be included as occurring in localities most pigmented normally, for Greenhow has reported the occurrence of spots in the mouths of members of dark races, such as the East Indian.

Often these local circumscribed areas or spots have a local source of irritation as a precipitating or predisposing cause; thus the buccal spots are often seen to depend on carious teeth as a source of irritation. In my second case a large number of hypodermics were administered one night to counteract syncope, and in the course of ten days the site of each needle puncture was a circumscribed area of bronzing, varying in size from one to three millimetres in diameter. The sclerotics in this disease are and remain white, and, in contrast to the colored face, they seem of an unusual pearly whiteness. There is nothing, however, to preclude the supervention of an icteric condition and a subsequent sclerotic discoloration, and, as the pearly sclerotic is said to be quite distinctive, it should be borne in mind that we can have a secondary conjunctival darkening. Histologically, the pigment is found in the form of small granules in and between the cells of the rete mucosum. It is said to be the same as that found in the chorioid and skin normally. It is also found, but not commonly, in the subcutaneous tissues, in the very superficial layers of the epidermis, in some of the ganglionic cells of the central nervous system, and along the course of vessels and nerves. As a rule, the internal organs are free from pigmentation. This coloring matter, according to many authorities, is the same as any found normally elsewhere in the body. Merkel writes: "The pigment itself is not in any way distinguishable from other pigments, especially that occurring in the cortex of the suprarenal capsules, and the chorioid." The pigment has been and is called melanin; in relation to its source we may say that while many speak of it as though it were a product of secretion, most authors are agreed to its origin in the blood, and that it is but the final step in a gradual change from hæmoglobin to hæmatoidin, and lastly to melanin. It would seem, if the pigment in Addison's disease is identical with other pigments found normally in the body, that we ought not to find the fluctuations of the color of the skin sometimes seen in certain cases, for melanin is exceedingly insoluble, and when deposited is reabsorbed with extreme difficulty. This is not an insurmountable objection, for in the negro, whose skin possesses a copious supply of melanin, we find under certain nervous conditions that his skin will become pure white in spots, constituting leucoderma, and if it is true that we can here have a decolorization from a supposed morbid nerve action which has no apparent cause, surely a similar effect can hold good where there is admittedly such great perversion of the function of the nerves controlling nutrition, and where we can find pathological conditions sufficiently obvious to resort to as a cause.

Langhans, Gussenbauer, Rindfleisch, and others, all admit the blood origin of this pigment, each, however, modifying the details of formation according to his own theory, though none of these men profess that it is a true secretory product, as Cornil and Ranvier do.

That the coloring comes directly from the blood is further supported by the behavior of old scars; here we have a tissue which is notoriously deficient in well-formed blood-vessels; in fact, a tissue unusually dry and bloodless, and which is covered by epithelium, just as the true skin is, differing from it in the thickness of the layer. Now, these very cicatrices remain white, and are made markedly conspicuous by the surrounding zone of pigmentation which often forms, ending sharply at the scar margin. I assume that here we have epithelial tissue and connective tissue also, and therewith trophic nerves which probably participate in the general perversion of function, and yet no pigmentation appears—simply because there is not blood enough brought to the part to form the pigment. Why there should be such a preference for the skin and mucosa for the deposit of pigment no one knows, though much speculation on this phase of the question has been published. Green remarks on this point that "in Addison's disease the pathology of the pigmentation is at present involved in obscurity." The alteration in color is most commonly explained at the expense of perverted trophic nerve action, which is said to be due to certain changes in the adrenals and abdominal sympathetics—changes which will be taken up and considered in a moment. We have numerous analogous conditions which lead us to believe that it is not stretching a point to attribute so much to perverted trophic nerve action. French says, in relation to pigmentation: "A more or less general pigmentation of the body occurs with visceral disease, especially of the uterine system in women, and individuals suffering from marasmus often become deeply pigmented. Addison's disease affords another example of symptomatic pigmentation, in which the skin and mucous membranes assume a deep-brown or bronze-like hue in connection with disease of the suprarenal bodies. Similar discolorations have been observed in hysterical persons of both sexes, and others as a result of extreme nervous excitation. . . . As demonstrated by Anstie, the coloring matter of the skin is frequently increased as a result of neuralgia of the nerves of the parts."

It appears from histological studies that certain cells of the body have a predilection for pigments, and exhibit this preference in many normal conditions; they also, when supplied with certain chemicals—such as silver, arsenic, and lead—manifest their proclivities in this direction, and after a time incorporate into themselves granules of these drugs, forming more or less permanent discolorations. Now, having a perverted nerve control of these cells, and a seemingly marked change in the vascular walls, it is no stretch of the imagination to believe that there is a vessel-wall change which may allow transudation of the blood and coloring matter; it is conceivable that it only needs the addition of a slight stimulus or irritation to determine the deposition of pigment in any particular locality. We have already seen how marked were the vascular changes in this case. This view is in accord with many other observations concerning Addison's disease; hypodermic punctures are followed by pigmentation; blisters, blows, the wearing of waist-bands, garters, and harsh clothing are usually followed by bronzing. The occurrence of spots in the mouth and on the hands and face seems difficult to reconcile with this idea; the buccal maculæ are often, as said before, seated at spots of irritation from carious teeth. The general pigmentation of the face, neck, and hands is perhaps to be explained as being precipitated (not in the chemical sense) by their contact with air, wind, sunlight, etc., and the changes in the axillæ and scrotum may be attributed to the increased temperature of the parts as compared with that of other localities, the increased heat acting as a stimulant, as required in the above-mentioned theory. Why the nipple is so blackened can only be explained on the ground of its prominence and its greater liability to friction, etc. The cause of the maculæ on the hands and face is inexplicable on the foregoing line of argument.

In addition to all these deviations from the normal, there are most marked alterations in the suprarenal capsules. In some cases reported there have been noticed hæmorrhagic extravasations, sarcomatous growths, cystic formations, echinococcus cysts, and fibrous atrophy, so called. The commonest change, however, is an enlargement with marked indications of a slow inflammation, as evinced by new connective-tissue formation and caseation. Varying according to the age of the process, we may find the adrenals with no caseation, but simply firm with much new round-cell formation and injected, or, later, with a caseous center; and finally this caseation, progressing outward to the periphery, involves the whole organ, leaving nothing but the capsule and its contained mass of cheesy material. The process is practically invariably symmetrical. Coincident with these conditions marked alterations in the abdominal sympathetics have been reported, consisting of inflammatory thickenings and injection of the sympathetic trunks and ganglia. Numerous other conditions have been noted, very diverse in character and not constant, with the possible exception of an enlargement of the mesenteric glands and the lymphoid structures of the intestines—*i. e.*, Peyer's patches and the solitary follicles.

Concerning the nature of the changes found post mortem in Addison's disease much work has been done, and, exclusive of those clear cases of sarcoma, echinococcus, etc., the weight of evidence seems to shift the balance to the side of tuberculosis, and this is accepted as true by most authorities. Many cases have been reported with signs of tuberculosis elsewhere, as of the bones, lungs, lymph nodes, etc.; here, of course, there can be no question about the nature of the lesions in the adrenals; it is in the cases of exclusive suprarenal disease that the question arises and is often undetermined. A number of cases have been reported where the bacillus of tuberculosis was found in the caseous material, and on the other hand there have been published reports of cases where no bacilli could be found at all. The present case falls in this category. This absence of the bacilli does not preclude the occurrence of tuberculosis; it is possible that caseation may go on long enough to have the bacilli all destroyed in the same process; this is a well-substantiated fact. Again, one may search a long time for the bacilli, and, unless one is unusually persistent, they will be missed. Prudden has reported a case of pulmonary tuberculosis where from one nodule over nine hundred sections were cut, stained, and examined with negative results. As stated above, in the present case there were no germs found, and no characteristic tubercle tissue with its miliary tubercles, giant cells, etc., was observed. There is a form of diffused tubercle tissue which is not of infrequent occurrence, and which undergoes the usual fatty and caseous changes; under this head the alterations in the capsules in the case under discussion might be placed. The enlarged lymph nodes in the mesentery also lead me to believe that the present case is undoubtedly tubercular in nature. You will remember that marked changes in and about the blood-vessels of the abdominal organs were mentioned above. Such effects always are indicative of either a long-continued hæmic stasis, or the circulation in the blood of some irritant poison—*i. e.*, the rheumatic, the gouty, the syphilitic, or the tubercular.

Admitting that the conditions in localized adrenal disease are tubercular, it is hard to see why we do not find tubercular disease elsewhere; and here we must halt, stopped by our ignorance. Though there are many explanations offered, yet nothing definite is known concerning what determines this diffusion or circumscription of tuberculosis. It is an observed fact that often the tubercular process is confined to the hip joint alone, or to other bones or joint surfaces.

It is a matter of common knowledge that children are very prone to tuberculosis of bone, and the heads of long bones in particular, and yet I say again that nothing is known as to the reasons for this selection and limitation.

Reisel's theory is an attractive one, though it begs the question at once. He believes the disease (Addison's) is one of a chronic inflammation leading to caseation, etc., and thence acts, as will appear later, on the sympathetics. Such an explanation is on a par with the old idea of catalysis, which, as you know, was formerly used to explain a large number of obscure changes about which nothing was known, and which is now being applied to fewer and fewer phenomena as our knowledge becomes more and more exact. To me there is no such process as a simple chronic inflammation, and, moreover, I believe all the conditions so called are either tubercular, syphilitic, or of other poisonous origin, proximately or remotely. It is more scientific and less liable to retard the progress of exact medicine to candidly confess our ignorance of a subject than to do the cuttle-fish act, so to speak, and cloak our want of knowledge with ambiguous terms calculated to satisfy the superficial seeker after information. Reisel further believes, and this is accepted by many authorities, that the inflammation in the adrenals, of whatever nature, by pressure and extension, inaugurates an irritative process in the sympathetics of the abdomen which extends to the abdominal ganglia, and thence to the spinal cord, whence proceed reflex general nervous troubles, and from the local abdominal irritation the abdominal vascular troubles, through vaso-motor paralysis, etc. Henle and von Brunn have shown what a rich supply of nerves is distributed to the adrenals; these bodies receive filaments from the splanchnic and cœliac plexuses, from the pneumogastric and phrenic nerves; and from the semilunar ganglia they have nearly all their fibers directly transmitted. The familiar examples of tapping a frog smartly on the abdomen, producing a stoppage of its heart; of the sensation of faintness in a starting elevator; of the prolonged faintness which often supervenes after blows on the abdomen—all show what may ensue after dilatation of the abdominal vessels, which is undoubtedly present in these conditions just cited, which conditions are attributable to temporary paralysis of the abdominal sympathetics, including their trophic fibers; a paralysis which follows the gravitation of blood to the abdomen, or ensues from the effects of the blow on the abdominal sympathetics through the abdominal walls.

When Addison published his celebrated brochure it was generally imagined that the profession would soon be able to determine the function of the suprarenals; we know now what a delusive hope this was. If more were known in relation to the function of these so-called ductless glands, perhaps more exact knowledge of the relation of the changes in the adrenals to the general symptoms of Addison's disease would be in hand. Kölliker said, in relation to this point and before Addison's publication: "I believe the cortical and medullary portions to be physiologically distinct. The former may be considered as belonging to the category of the so-called vascular glands, and doubtless is in some way related to the process of secretion, while the latter, owing to its extraordinary richness in nerve tissue, must be described as an appendage to the nervous system."

Brown-Séquard made a number of experiments, and from these concluded that extirpation of the adrenals caused death, with convulsions and rapid increase of coloring matter in the blood; he assumed, therefore, that these organs were in some way concerned in the production of pigment and the regulation of its deposition. One observer, with this in mind, conjectured that the adrenals in the negro ought to be larger than those in a white man—an assumption which has never been confirmed.

If we believe that the adrenal is concerned in the production of pigment and in controlling its deposition, then, from one point of view, the darker the race the smaller the suprarenals ought to be. According to this idea, it is assumed that these organs destroy the surplus amount of pigment and deposit the remainder. In the colored races there is a large amount deposited and a correlated small amount destroyed, giving the organs but little to do, and therefore, according to this speculation, they ought to be found of small size in these people—an idea directly opposite to that just mentioned. Reasoning in the same line, all races and animals tending to albinism ought to have large adrenals. It would be of much interest to know whether any such conditions exist in the bodies of albinos, both in the human subject and in other animals—such as albino rats, rabbits, etc.

Gratiolet, Philippeau, and others have demonstrated that these conclusions of Brown-Séquard's are not tenable, and that his observed changes were due to the magnitude of the injuries inflicted in operating; that, if properly conducted, no ill results followed. Other workers—Bridge, Pincus, Adrian—have noticed profuse diarrhœa, with venous congestion of the stomach and intestines, after extirpation of the semilunar ganglia, even when every precaution and care were observed in operating. In the present case the sympathetics and ganglia were sought for, but, unfortunately, not found. On this point, therefore, this case furnishes neither positive nor negative evidence for any particular view.

A few cases have been reported which tend to controvert the assumption that this disease can be classed as a distinct malady. There are some where many of its indications were present by which to diagnosticate this disease. There was in these cases, however, a *striking absence* of the characteristic pigmentation of the skin. In these cases the marked and progressive asthenia, the severe nervous symptoms, and the persistent gastric disorders were all observed, and, what is more impressive, there were found the characteristic pathological conditions in the adrenals and the sympathetics. While such cases are very weighty and, if they were in the majority, would break down the distinction heretofore held in relation to the disease under discussion, yet they are no more weighty than the absence of the rose eruption of typhoid, or of the acute catarrh of measles, in their respective cases, as often happens; and no one questions the distinctiveness of these diseases.

There have been, on the other hand, some observations made on diseased conditions of the suprarenals without any of the signs or symptoms of Addison's disease following. I myself have seen both adrenals increased to the size of their respective kidneys, which were normal, without the coexistence of a single characteristic sign or symptom of bronze-skin disease. In these last cases of adrenal change, without other deviations from health, we must not lose sight of the possibility of the presence of accessory suprarenals, which are able to take up the duties of the diseased organ, whatever such duties may be, and so prevent the usual accompanying train of symptoms. The idea of accessory adrenals should be kept in mind, and, if one has the opportunity, they ought always to be sought for. For example, it is conceivable that the larger suprarenal, assuming the existence of additional adrenals in a given case of Addison's disease, could undergo the usual changes and cause the necessary pathological alterations in the abdominal sympathetics and ganglia, which train of alterations would amply account for the usual symptoms in the case, while the accessory organs could be employed in their supposed pigment control. While on this point let me say that it is a sad misconception of the disease to hold that any abnormal condition of the suprarenals ought to produce pigmentation, and that any extensive pigmentation unaccounted for by causes should constitute Addison's disease. Greenhow has clearly shown that, in order to have the characteristic set of symptoms so strikingly peculiar to this disease, there must be a certain condition only present in these organs—a condition which is now almost universally accepted as tubercular in nature. It seems, perhaps, assuming a good deal to attribute to the adrenals some function of which we know nothing, and then to say that the abolition of this assumed function causes, in part at least, the grave symptoms that are seen in morbus Addisonii. It is, however, not one whit more hazardous to do this than to refer the remarkable changes which supervene after total extirpation of the thyreoid to the loss of that organ; there is not now a doubt in the mind of any one who has given the matter any thought or attention that tetany is the direct result of total thyreoidectomy, and neither is there much uncertainty concerning our knowledge of the function of the thyreoid, for practically nothing is known about it.

The differential diagnosis must be made between this disease and those various troubles accompanied by pigmentary changes. Under this head the examples mentioned above where pigmentation may occur are to be excluded; we must also exclude the pigmentation found in unclean people—the so-called paupers' or vagabonds' disease—where discolorations are found due to the irritation of vermin, etc. We must also eliminate the possibility of syphilis and many exhausting diseases—such as tuberculosis, when it is general. Icteric discolorations ought not to be considered, for the points of difference are so sharp and distinct as to early lead to a diagnosis. If the diagnosis is based on—1, the bronzing being deepest on the face, hands, and naturally dark parts of the body; 2, the characteristic dark maculæ in the mouth and on the hands; 3, the early, striking, and profound asthenia; 4, the marked and persistent gastric troubles with no discoverable organic cause; and 5, those symptoms referable to unequal distribution of the blood, such as syncope, headache, etc.—there will never be much difficulty in stamping a given case as one of Addison's disease.

The prognosis of this distressing disease is bad; the patient can have hopes of living at the longest but a few years. A few cases have been reported as bronze-skin disease and mentioned as having ended in recovery. It is safe to say either that there was a mistake in the diagnosis or that the patient had not been under observation long enough. An attack of fatal syncope, of fatal nausea and vomiting, or of coma may ensue at any time and carry the patient off in a few hours or days.

It is not necessary to revert to the treatment of these cases, for nothing curative is within reach, and our efforts at best can only be palliative; they must be directed toward each symptom as it arises. In conclusion, it is to be said earnestly that certain ideas, hardly theories, have here been put forth, not with the fond hope that they may be new or prove to be complete explanations of the many difficult and obscure points which are inseparably bound up with the study of this interesting malady, but solely for the purpose of provoking discussion and thereby bringing out a full review of our ideas of this matter.

Works consulted.

Merkel. Article on Addison's Disease. Von Ziemssen's *Encyclopædia of Medicine*, vol. viii.

Flint. *Practice of Medicine.*

Greenhow. *Addison's Disease.*

Henry. *Anæmia.*

Green. *Pathology and Morbid Anatomy.*

Delafield and Prudden. *Hand-book of Pathological Anatomy and Histology.*

F. P. Henry. Article on Addison's Disease. Buck's *Reference Hand book*, vol. i.

J. M. French. Article on Melanosis. Buck's *Reference Hand-book*, vol. iv.

TRACHEAL SYPHILIS,

WITH A REPORT OF TWO CASES.[*]

By JONATHAN WRIGHT, M. D.,
BROOKLYN.

Syphilis limited to the air-passages below the glottis is a rare disease. Unlike many rare pathological conditions, however, it has not received the attention it deserves, for, besides its rarity, it possesses the additional interest and the greatest importance from the fact that the differential diagnosis is often of the greatest difficulty, while upon it frequently depends the life or death of the patient.

It is therefore with gratitude that I avail myself of the kindness of Dr. Hodenpyl, the assistant pathologist of Roosevelt Hospital, and of the attending staff, to present the histories and the pathological specimens of two such cases.

Case I.—M. W., widow, aged thirty-three, born in Germany, and a housemaid, came to the throat class of the dispensary on July 20, 1888, with the diagnosis made at another dispensary of laryngeal tuberculosis. Her family history was negative. The previous history showed no venereal, rheumatic, or malarial symptoms, and the alcoholic history was moderate. A year previous she had noticed slight œdema of the feet on standing, but had had none since then. Six years ago she had at times suffered from general pains. There were no previous cardiac, pulmonary, or renal symptoms. Her present illness began four months ago, when she commenced to cough. This increased and was accompanied by the expectoration of yellowish-green mucoid sputa which were occasionally blood-stained. There was no other hæmoptysis. There was pain in the chest on coughing. She had had no night-sweats. For four months she had had some cardiac palpitation. For two months there had been dyspnœa on exertion. For about six weeks she had noticed slight pain in the throat and the feeling of needles pricking it on swallowing. There was no change of voice until ten days before admission, when she found she could not speak above a whisper. For the last twenty-four hours she had had paroxysmal dyspnœa. Since the cough first began she had lost considerable flesh and strength. Her sleep and appetite were poor and her bowels were constipated. She was pale and emaciated, somewhat cyanosed, and very much exhausted. Her tongue was coated and dry. Her pulse was 120, respiration 40, temperature 103° F. Her respirations and cough were stridulous and her voice was nearly inaudible.

A hasty and imperfect laryngoscopic examination was made. There was no abnormity about the larynx except its dusky pallor, but below the glottis the lumen of the trachea could be seen to be almost obliterated by the ulcerated infiltration of its walls. On account of her condition, the patient was quickly sent into the wards. I made a diagnosis of advanced pulmonary and tracheal tuberculosis and did not see the patient again, though I distinctly remembered the case from the lesion being entirely subglottic.

Physical examination of the chest and abdomen showed nothing abnormal except some dullness and exaggerated breathing at the apex of the left lung. There was a trace of albumin in the urine.

For two weeks she was given morphine, cough mixtures, laxatives, hot applications to the trachea, and inhalations of oxygen with but little relief. Her cough and dyspnœa increased until August 3d, when a laryngo-tracheotomy was done. This gave decided relief from the dyspnœa, but the cough continued. Her sleep and digestion were interfered with by her symptoms, and she grew feebler.

On August 15th marked dullness on percussion was discovered at the apex of the right lung in front. She gradually lost ground, her cough and debility increasing. On October 6th a physical examination showed flatness over the left side of the chest in front and behind, with moist râles and bronchial breathing, except over the lower third of the chest behind. The respiratory murmur was very feeble. On the right side there were numerous sonorous and sibilant râles.

She gradually sank, and died from exhaustion on October 19th. (No sputum examination is recorded.)

---

[*] Read before the Section in Laryngology and Rhinology of the New York Academy of Medicine, March 24, 1891.

The *autopsy*, by Dr. Hodenpyl, showed complete pleuritic adhesions all over the left lung except at the apex, where there was a circumscribed cavity containing pus. The entire lung was consolidated as if by interstitial pneumonia, rather than the lesions of phthisis. The bronchi contained muco pus in considerable quantity, and in the lower lobe some were dilated. The right lung was large, congested, and œdematous. There was no marked change in the epiglottis or in the larynx, but the tracheal cartilages were necrotic, and the whole length of the trachea was irregularly thickened and ulcerated. The tracheotomy wound was still open.

A microscopical examination of the left lung showed marked interstitial changes. Some of the alveoli were partially filled by inflammatory products. The blood-vessels were dilated and the pleura thickened. Diagnosis: syphilitic pneumonia.

In the specimen from Case I you will observe that the ulceration begins some distance below the cords, and also below the tracheotomy wound. It is probable that the relief afforded in this case from the dyspnœa by tracheotomy was due to the fact that there was some paresis or spasm of the vocal cords. This patient lived for a long time after the tracheotomy, and did not primarily die of the stenosis. Nevertheless, there seemed, from my hasty laryngoscopic examination, not only no spasm or paresis, but abundant explanation of the dyspnœa in the infiltration and stenosis of the trachea.

The other case I did not see personally.

Case II.—N. M., a widow, seamstress, born in the United States, aged forty-five, was admitted to the wards October 21, 1890. Father died of phthisis. A brother died of Bright's disease. A sister had a cough. The patient had rheumatism in her hip and ankles last July. She had typhoid fever eight years ago, and malarial fever two years and a half ago. She had often had tonsillitis. For five or six years she had had some cough, and five years ago she had a hæmoptysis. Within three years she had had two or three severe attacks of bronchitis and some asthma. She thought she had always had some shortness of breath and palpitation of the heart on exertion. She had inflammation of the bladder and womb fifteen years ago, after childbirth. She had had two children and one miscarriage. She denied venereal symptoms. Her alcoholic history was moderate. For the last three months she had had considerable cough, worse in the morning and at night. The expectoration was muco-purulent and occasionally blood-streaked. She had headaches and felt weak, but kept about until the last three days. Her appetite was poor. Her bowels were regular. She had had some vomiting. She remembered but one night sweat. She had lost some flesh. For two weeks she had had some difficulty in breathing, which was worse at night. For the last three days she has had orthopnœa, and occasionally spasmodic dyspnœa.

The patient was brought to the hospital in an ambulance, and was suffering from severe dyspnœa and orthopnœa. She was somewhat emaciated. Her eyes were suffused, her face reddish, the tongue moist and lightly coated. Pulse, 92, irregular and weak; respiration, 24; temperature, 100·6°. Urine contained five per cent. of albumin.

Physical Examination.—Percussion note normal, except at left apex, where there is relative dullness, and the expiration is prolonged and high-pitched. Elsewhere the breathing is markedly sibilant and sonorous. Heart's action is weak—otherwise normal, as are apparently the other organs. The patient's dyspnœa and orthopnœa increased. A laryngoscopic examination was made, but was imperfect, owing to patient's condition. The larynx was seen to be much congested. On the morning of the 24th a tracheotomy was done with but little relief, and twelve hours later she died. (No record of sputum examination is given.)

Autopsy, by Dr. Hodenpyl.—There were old adhesions over the left lung, at the apex of which there were two or three cheesy calcareous nodules. The bronchi contained muco-purulent matter. The middle lobe of the right lung was consolidated with a gray and red color. The cut surface was smooth. The bronchi were congested and contained muco-purulent matter. Other organs normal or their condition unimportant.

The entire length of the trachea was ulcerated, and at a point about two inches below the larynx there was almost complete stenosis.

In the second specimen you will notice the great extent of the ulceration from the cords to the other end of the trachea. At the lower end an enlarged gland is seen imbedded in the tracheal wall large enough in itself to cause some stenosis. It is clear in this case why tracheotomy gave no relief.

It is immediately apparent, on studying the histories of these two cases, how extremely difficult a differential diagnosis was from pulmonary and tracheal tuberculosis, and they afford an apt illustration of Valette's (1) remark: "Tracheo-bronchial syphilis offers occasionally such a striking resemblance to pulmonary tuberculosis that the most skillful may be deceived." It is fair to assume also that, had a correct diagnosis been arrived at, the prognosis would have been fairly good in Case I.

Valette says that Cayol, in 1810, reported three cases of tracheal ulceration in which the patients died of dyspnœa, but he regarded the affection as a local disease and did not differentiate the causes on which they depended.

Türck (2), in the early days (1861) of laryngoscopy, described a case of tracheal syphilis in which, however, the principal lesion was in the larynx; and later (1866), in the atlas to his text-book, he gives a good illustration of the condition found. It was not, however, until 1867 that Gerhardt's (3) paper* first treated of the subject at length. Since then Vierling (4), Beger (5), Solis-Cohen (6), Mauriac (7), Landgraf (8), Sokolowski (9), Lublinski (10), and others have written exhaustively on the subject, while cases have been reported by Lucas (11), Ingals (12), Gulliver (13), Gouguenheim (14), Besançon (15), Schmidthuysen (16), Schech (17), and many others. Mackenzie (18) devotes a chapter to it in his book.

While cases have been reported (Ingals, Lucas, and others) where ulceration did not occur, but the disease existed as a gummy tumor, as Cohen observes, "the tendency is to ulceration." Its pathological histology differs in no way from tertiary syphilitic lesions elsewhere.

While it has been alleged that secondary manifestations of syphilis may occur in the larynx and trachea, Seidl (19) and others having reported small condylomata of the tracheal wall, Schrötter (20) asserts that he has never seen them, and doubts the occurrence of macules or papules. The finer differential diagnosis from tracheoscopic appearance in the mirror must necessarily be open to more or less skeptical criticism. It has been denied that papillæ occur in the larynx and trachea, but their presence has of late been demonstrated in some cases over limited areas in the larynx. Hence the mucous patch in these situations and superficial syphilitic ulcerations are pronounced by many as at least extremely rare, if they ever occur. I have, in a few cases in the larynx and once in the subglottic space, seen appearances which closely resembled coexisting lesions in the pharynx. The erythematous congestion which accompanies secondary syphilis in the buccal and pharyngeal cavities is frequently seen in the larynx also, and hoarseness from this cause is common enough.

---

* Unfortunately, I have been unable to consult the original of this important work, and only know of it from extracts.

The tertiary manifestations are the ones which interest us clinically, and of these the ulcerative form is the one that presents the most points of puzzling interest and is the most common. We have here the characteristics usual in a specific ulcer. It would be superfluous to repeat them here, but reference may be made to Cohen's paper and to Valette's monograph for full descriptions. Suffice it to say that denudation, necrosis, and expulsion of portions of the tracheal cartilages frequently if not always occur. After a longer or shorter time, if the patient survives, the stage of ulceration gives place to cicatrization. The tendency to the spreading of the ulceration being from above downwar, cicatrization begins from below and travels upward (Cohen), so that the two processes coexist over considerable periods of time. This is frequently if not always the most critical part of the disease and always the least amenable to treatment. It is rare that the trachea is occluded as a result of syphilitic inflammation by a circular web of tissue with a hole in the center, as is occasionally reported from diphtheria and other causes, but the encroachment on the lumen is more or less in a longitudinal direction. The linear or star-like cicatrices are at first rounding, cord-like, or broad, ribbon-like bands of dense, rosy-colored connective tissue of low vitality, remarkable for its great tendency to contraction. As this occurs, the bands or cords become tenser, harder, and whiter, the rosy color disappearing and leaving a smooth, glistening surface, which, at the point of greatest stenosis, often appears perfectly bloodless. This tissue is nevertheless subject to frequent congestions, and then becomes of a smooth, dark-red appearance. Often there are irregularities of surface, smaller and larger elevations, which, when thus congested, may lead the observer to mistake them for granulations. Papillomata may occur on the surface at any stage of this pathological process.

Cohen says: "The upper part of the trachea suffers most when the larynx is involved, the lower portion when the disease is isolated or associated with syphilis of the bronchi. In some instances the middle portion alone suffers." Mauriac, however, says that the middle portion of the trachea is almost never affected. "Exceptionally the two extremities are affected with complete conservation of the middle portion. . . . When not occurring in direct continuity with similar lesions in the larynx, the most frequent seat of ulceration is the anterior surface of the lower portion of the trachea just above the bifurcation, whence it extends" in any direction. "The ulceration usually begins in a number of small ulcers. . . . Coalescence of similar ulcerating surfaces or phagedenic extension sometimes produces very extensive ravages which may involve" the whole trachea. Three of Julian's twenty-one patients and four of Gerhardt's twenty-two had ulceration of the entire trachea, according to Mauriac, and Riegel (21) says that in all of Gerhardt's cases, where the whole trachea was ulcerated, the larynx was narrowed also. Apparently only sixteen of Vierling's forty-six cases showed lesions exclusively below the glottis. Mauriac speaks as though the proportion was much less than this. In five of Vierling's cases the bronchial mucous membrane alone was affected.

In Case II, reported here, it will be noted that the whole trachea is involved while the larynx is free from ulceration. The resulting cicatrices may cause stenosis of all degrees, and even almost entire occlusion.

"Irregular annular dilatation of the trachea is often produced by the pressure of the air current above the stricture and sometimes below it. Even dilatation of the bronchi has been noted." The trachea may be shortened by the contraction of longitudinal cicatricial bands.

"Stricture of the bronchi is rare. It affects the left bronchus more frequently."

Schrötter has only observed two such cases in his whole practice, in one of which he obtained some relief by attempts at dilatation.

Schmidthuysen has also lately reported one case of syphilitic stricture of a bronchus in which the diagnosis was not made during life. Both Schrötter and Cohen speak of rare cases of peritracheal and peribronchial inflammations which may compress not only the air-passages themselves, but also the recurrent nerves. Peritracheal glands may act in a similar way, and in one of the specimens (Case II) such a gland may be seen pressing upon the trachea. Ulceration may penetrate the adjoining structures, perforations of the pulmonary artery,* the aorta,† the œsophagus,‡ and the mediastinum # having been reported. Adhesions may be set up and abscesses occur.

There may be exfoliations of larger or smaller pieces of the tracheal cartilages, which may form valve-like occlusions by hanging into the trachea, or may drop into the bronchi.

Mackenzie's statement, in which he is joined by Solis-Cohen, that the determination of disease to the trachea in syphilitic patients is probably due to some accidental congestion or old-standing relaxation of the mucous membrane of the part, is plausible, but too theoretical to be satisfactory, while his further remark that those who have had secondary tracheal manifestations are particularly liable to the occurrence of later tracheal phenomena is certainly important; but this observation has not been repeated or confirmed by other writers.

Out of thirty-nine of Vierling's cases, twenty-three were in men and sixteen in women, though Cohen says that tracheal syphilis is more common in females, laryngeal more

---

* Gerhardt. *Loc. cit.* Kelly. *Trans. of the London Path. Soc.*, xxiii, p. 45.

† Wilks. *Trans. of the London Path. Soc.*, xvi, p. 52.

‡ Beger. *Loc. cit.*

# Wallman. Virchow's *Archiv*, xiv, p. 201.

common in men. All authors agree that the greater number occur in the third and fourth decennia of life, though cases have been reported from infancy to old age.

Five of Vierling's cases were due to hereditary syphilis. He says that the average time of the appearance of tracheal syphilis is two or three years after infection, the shortest time being two months, the longest six or seven years. In one case reported by Sokolowski and in another by Gougenheim syphilitic stenosis occurred twenty years after infection, there having been no intervening manifestations of syphilis after the usual secondary symptoms. In the cases reported here no direct or indirect evidence of syphilis could be obtained.

In regard to the symptoms, those rare cases of diffuse or concrete gumma resemble, of course, more the other forms of subglottic tumor of which Koch (22) has recently written.

In the ulcerative form it is doubtless true that these patients, as mentioned by several writers, are apt to be in poor health before the onset of local tracheal signs. Many of them are enfeebled by previous manifestations of constitutional syphilis. The tracheal lesion itself may have existed for some time without attracting the patient's attention. Many of them will give the history of antecedent syphilitic infection, and of course these facts, together with objective signs of old cicatrices and glandular involvement, will greatly assist in the appreciation of the clinical picture. Coexisting active lesions in other and more accessible parts may render the case as clear as day, but, as we have seen, all those phenomena may be absent.

On the other hand, Besançon has reported a case at the Paris Anatomical Society in whom considerable tracheal stenosis was found post-mortem which had apparently existed for years and which had given rise to no appreciable signs, though the man had been treated intermittently for over forty years for syphilitic manifestations elsewhere.

Gerhardt divided the course of tracheal syphilis into three stages, corresponding with the pathological changes:

1. Irritation—or ulceration.
2. Dyspnœa—or cicatrization.
3. Suffocation—or permanent stenosis.

It is said that ulceration and infiltration are always preceded by congestion in syphilis of the trachea. The symptoms of such a condition are, as a rule, however, too slight to attract the attention either of the patient or his physicians. Cough is the first symptom of note, usually slight at first, following some attack of "catching cold." With it there may be a feeling of tracheal discomfort. The expectoration, which at first may be absent, becomes gradually profuse, muco-purulent, and often streaked with blood. Even considerable hæmoptysis may occur. This stage may last for a long time, and there may be periods of amelioration, the patient appearing to have had several intermittent attacks of bronchitis. Tenderness along the trachea is occasionally elicited. Burning sensations behind the sternum may be noticed, but these are not constant symptoms. Dysphagia may be present to a slight degree, though it is usually absent. When present, it is not, as a rule, referred to one side of the pharynx, and does not radiate to the ear, as in laryngeal tuberculosis, but is referred to the back of the throat, or low down in front. Failing of the general health, some loss of appetite and of flesh and strength, are noted, but these are not usually as marked as in phthisis in proportion to the cough and expectoration; neither is an afternoon temperature so frequently present. The voice is usually not sensibly affected, but even in lesions low down there may be huskiness and even aphonia, possibly due to paralysis from pressure on the recurrent nerves, or from reflex influences. The voice subsequently may be feeble from lack of the proper respiratory air-current. Sooner or later the patient begins to suffer from dyspnœa. This is frequently spasmodic, and intermittent at first. It, however, becomes more and more constant, and we enter upon the stage of cicatrization.

It is doubtless true that dyspnœa may occur and become severe before there is any true cicatrization from the inflammatory action of the ulcerations, or from the diffuse infiltration of the tracheal walls. This dyspnœa may be only with inspiration (Mauriac), but there is usually both inspiratory and expiratory stridor, and the breathing is without any intermission or pause between inspiration and expiration. The larynx is immobile, not moving up and down, as in laryngeal obstruction, but is depressed; nor is the head thrown back, but rather bent forward.

Mauriac mentions a condition caused by a valve-like arrangement of the distorted mucous membrane, or of partially necrosed cartilage, where the dyspnœa is mostly on expiration. Of course, the other signs of air hunger are also present. The case may and often does terminate at this stage in the death of the patient from exhaustion.

The more frequently fatal stage of the disease, however, is after cicatrization is well advanced. The dyspnœa may suddenly be relieved for the time being by the expulsion of necrosed pieces of cartilage or other tissue in a violent paroxysm of coughing. Cicatricial bands, however, form and gradually cut off the air supply. Tracheotomy, even when done low down, is often of no avail, the stenosed portion being frequently beyond the reach of a tube.

Where this cicatrization and contraction come on slowly, and it may be of all degrees of rapidity, patients often live for a surprisingly long time, and accustom themselves to breathing through a very narrow lumen. Thus the third stage also may be greatly lengthened. Complications of abscesses, perforations, hæmorrhages, etc., may intervene, with their accompanying symptoms, at any stage of the disease. Coexisting or intercurrent disease elsewhere, especially simple lobar pneumonia or syphilitic pneumonia, may bring the scene to a close.

This course, with all the three stages, may be run in a few weeks, or it may extend over years.

The disease is to be diagnosticated from—

1. Tubercular disease.
2. Cancer and other new growths.
3. Lupus.
4. Leprosy.
5. Störk's blennorrhœa.
6. Compression of the trachea by extrinsic causes.

It is hardly necessary to say that the laryngoscope will usually decide the absence of laryngeal disease or its coexistence, but in some cases the patient's condition is such that a satisfactory examination is impossible. Mauriac gives the following useful points in diagnosticating tracheal from laryngeal dyspnœa:

1. Constrictive pain along the trachea or behind the sternum.
2. Excessive stridor, having its greatest intensity below the larynx.
3. Preservation of the voice.
4. Integrity of the vocal organs.
5. Lowering of the larynx.

Of course any of these signs may be absent or perverted.

Infrequent as is syphilis of the trachea, the other intrinsic diseases—tuberculosis, cancer, lupus, leprosy, etc.—are still more infrequent without disease in the larynx. I have never seen, and I have been able to find the record of only one case, mentioned by Valette, where tuberculosis was either primary or confined to the trachea to the exclusion of the larynx. When subglottic ulceration is seen in the mirror, and the larynx is free, there is the strongest probability that the disease is syphilitic in any given doubtful case.

It is not necessary to speak of the differential appearance of the various forms of ulceration; they are well understood and do not vary here from types elsewhere. Seen, however, in the laryngoscopic mirror in a dyspnœic patient, the opinion of the most practiced and expert observer is frequently of limited value. Tuberculosis, as far as I know, rarely goes on to a high degree of stenosis of either the larynx or trachea without the serious and advanced involvement of the lungs. The presence of the tubercle bacillus in the sputum would of course settle the question except in those cases where syphilitic disease coexists, as urged by Rice (23) and Schnitzler (24) to be not infrequently the case in the larynx. Without a history of syphilis or some other local lesion, the diagnosis would here be impossible.

"Tuberculosis of the trachea," as Valette observes, "is usually only a feeble episode in the laryngeal and pulmonary trouble which it accompanies."

The absence of tubercle bacilli in the profuse expectoration of a case which appears as far advanced as do those cases of tracheal syphilis when they come under observation is a strong presumption against tuberculosis. The administration of potassium iodide may often, but not always, reveal the presence of syphilis, but in many cases of tracheal stenosis from other causes, this may be attended with a very alarming increase of the dyspnœa. I have seen one such instance. The same may be said of the injection ot parataloid or Koch's tubcreulin. Coexisting syphilitic disease of the lung would render the differential diagnosis from tuberculosis almost impossible, the only points to consider being the absence of the tubercle bacillus, the absence of reaction from tuberculin, and the marked improvement which might follow the administration of potassium iodide. The absence of syphilitic history or signs is of but little value, and their presence is not conclusive.

To the trained clinical observer there is a peculiar facies in advanced cases of pulmonary consumption that is almost pathognomonic. Such indefinable impressions are probably unscientific, and depend largely for their value on the personal equation of the observer, but in obscure cases they are not to be disregarded, and may at least lead to much careful study of the case.

Primary cancer of the trachea is an affection of the greatest rarity. Several years ago Solis-Cohen, in Ashhurst's *Encyclopædia of Surgery*, could collect only thirteen cases. Two have been reported since by Gerhardt (25) and Koch (*loc. cit.*). The former bases the differential diagnosis in these cases, as far as the subjective signs go, on the fact that ulceration in cancer, with the accompanying irritation and cough, does not appear until after the growth is large enough to cause marked and often sudden dypnœa, while in syphilis cough is the first symptom; but in a case of benign tracheal growth I have seen a dry cough antedate the dyspnœa by many months.

Tracheoscopic examination may reveal the characteristic picture of a fungoid subglottic tumor instead of diffuse ulceration. The general health is unaffected, as a rule, in the early stages of tracheal cancer.

I am acquainted with the record of no case of primary lupus of the trachea, although Whipham and Delepine (26), of London, have reported a case of tubercular lupus of the larynx, trachea, and bronchi. It is impossible, therefore, to say anything of the differential diagnosis in such a case. The absence of a tendency to ulceration and the presence of the small shining tubercles of lupus would be the things to look for with the laryngoscope.

Störk (27) has reported some cases of blennorrhœa of the trachea, the disease existing also in the nose and nasopharynx. We are not likely to see such a case, nor one of tracheal leprosy, in this country. Stenosis of the trachea due to external causes it is not necessary to dwell upon. Usually the accompanying symptoms reveal the nature of the case, though large bronchial glands in children may give rise, especially with accompanying lung disease, to great trouble in the diagnosis between tuberculosis and congenital syphilis. Landgraf mentioned in his paper a curious case of hysterical stenosis of the trachea, and Lublinski, in the discussion which followed the reading of the paper, related a similar one. It is unnecessary to say that the differential diagnosis is not difficult in such cases.

Tracheal gummata, or the non-ulcerative form of tracheal syphilis, yield usually to treatment with large doses of potassium iodide. Syphilitic ulceration, however, always presents a grave prognosis. It is a disease which is nearly always far advanced when first seen or when the diagnosis has been made. Even when temporarily checked, it easily recurs, and cicatricial stenosis is almost sure to follow and form a dangerous menace to life. This gravity of prognosis applies with still more force to bronchial stenosis. Nevertheless, no case should be regarded as hopeless where the vital powers are not irreparably damaged. In America there is only one answer to the question of drugs. Iodide of potassium to the point of systemic tolerance, whatever that may be in grains, is here of the greatest value. Mercury by inunction or by the mouth may be used as an adjuvant, but the iodide should be gradually but swiftly increased from small doses, frequently repeated, to large ones, well diluted in milk or water. Careful observation of the patient's respiratory tract must be made, for, while we are not accustomed to see œdema of the mucous membranes any more frequently in this country after large doses than they are abroad after small, it must be remembered that such accidents occasionally occur, even in a syphilitic patient.

Gouguenheim quotes Moissenet and Vidal as being afraid even of what is regarded in France as large doses of iodide in these cases, because they fear the ulceration will heal too quickly and the cicatricial stenosis will be greater. This fear will not appeal very forcibly to the imaginations of many of us. A pharyngeal ulceration certainly suffers no extra damage from cicatrization in healing quickly. But, quickly or slowly, the contracting cicatrix is the difficult problem to deal with.

When the stenosis is high up, O'Dwyer's long adult tubes may be of service. Landgraf and Lublinski have shown that it is possible to catheterize and dilate the trachea *per vias naturales*, and Landgraf has even passed a tube into a bronchus compressed by an aneurysm with marked temporary relief. There is not the great tendency to recontraction after dilatation that is observed in the urethra, for here we have more or less rigid or supported walls. Schrötter has obtained an idea of the form of the stenosed opening by passing a camel's-hair pencil saturated with wax into the trachea and thus taking a cast of the distorted lumen. No case, however, should be left to die of cicatricial stenosis without opening the trachea and doing a thyreotomy if necessary, in order to get nearer to the obstruction and facilitate the passage of hollow sounds. Schrötter succeeded in giving relief in one case of bronchial stenosis by this method.

In stenosis of the upper part of the trachea it may be possible to cut away the obtruding cicatricial tissue. These cases should be looked upon as desperate ones, in which, without surgical relief from the mechanical impediment to respiration, a painfully lingering death is a certainty.

In conclusion, it may be mentioned that patients with syphilis of the air-passages have been benefited and cured by the occurrence of some of the acute febrile diseases, such as scarlet fever, measles, and erysipelas (28).

Bibliography.

1. Valette. *Gazette des hôpitaux*, August 10, 1889, p. 829.
2. Türck. *Allg. Wien. med. Ztg*, No. 50, December 10, 1861; *Klinik der Krankheiten des Kehlkopfes*, p. 253, 1886; *Atlas*, Taf. vii, 4, and ix.
3. Gerhardt. *Deutsch. Arch. f. klin. Med.*, No 11, 1867.
4. Vierling. *Deutsch. Arch. f. klin. Med.*, vol. xxi, p. 325, 1878.
5. Beger. *Deutsch. Arch. f. klin Med.*, vol. xxiii, 1879.
6. Solis-Cohen. *Journal of Laryngology*, Nos. 11 and 12, 1888.
7. Mauriac. *Archiv. gén. de méd.*, 1888, vol. xi, p. 675.
8. Landgraf. *Deutsch. med. Woch.*, January 16, 1890, p. 43.
9. Sokolowski. *Berl. klin. Woch.*, No. 10, 1889, p. 209.
10. Lublinski. *Berl. klin. Woch.*, No. 37, 1887, p. 689.
11. Lucas. *Brit. Med. Jour.*, December 24, 1887, p. 1378.
12. Ingals. *Trans. of the Am. Laryng. Assoc.*, 1884, p. 90.
13. Gulliver. *Lancet*, March 9, 1889.
14. Gouguenheim. *Annales des maladies de l'oreille*, etc., February, 1886, p. 65.
15. Besançon. *Progrès médical*, p. 499, 1886.
16. Schmidthuysen. *Rev. de laryngol.*, etc., No. 3, February 1, 1891, p. 8.
17. Schech. *Internat. klin. Rundschau*, No. 5, 1887.
18. Morell Mackenzie. *Diseases of the Nose and Throat*, 1880, vol. i, p. 510.
19. Seidl. Ref. by Mackenzie (*loc. cit.*).
20. Schrötter. *Arch. de laryngol.*, p. 249, October, 1890.
21. Reigel. Ziemssen's *Encyclopædia*, vol. iv, p. 482, 1876.
22. Koch. *Annales des maladies de l'oreille*, October, 1890, p. 682.
23. Rice. *Trans. of the Am. Laryng. Assoc.*, 1889, p. 95.
24. Schnitzler. *Rev. de laryngol.*, November, 1891, p. 79.
25. Gerhardt. *Berl. klin. Woch.*, December 5, 1887, No. 49, p. 933.
26. Whipham and Delepine. *Brit. Med. Jour.*, March 16, 1889.
27. Störk. *Klinik der Krankheiten des Kehlkopfes*, etc., 1880, p. 435.
28. John N. Mackenzie. *Trans. of the Am. Laryng. Assoc.*, 1884, p. 19.

For a fuller bibliography, see Mauriac's paper.

NOTES ON SOME SOUTHERN HEALTH RESORTS.

By FREDERICK PETERSON, M. D.

THINKING that a few desultory observations upon some of the climatological stations of the South made during a recent trip to the West Indies and Southern States may not be uninteresting to the general medical reader, I venture to present them in a short paper.

Cuba.—The proper season for visiting Cuba is in the winter from December to March. I found a tropical heat in Havana upon my arrival in March that was not altogether comfortable. While Havana itself is ill-smelling, unhealthful, and not well equipped with good hotels, there are suburbs which are simply delightful as places of residence, in particular Vedado and Marianao. In these places the Northern invalid can find cozy villas nestling in tropical gardens open to breezes from the Gulf wherein the wintry season may be pleasantly and profitably spent. Vedado is but five miles from the city, and therefore within easy reach of the fine hydrotherapeutic establishment of Dr. Belot, and the Hotel Choix here is much more agreeable than the Inglaterra or Pasaje of the hot and dusty town. The sea-baths of Vedado are exceptionally fine and unique in character. The shore is rocky and the baths are excavated out of the solid rock within a few feet of the water's edge. They are about ten feet square and the water in them varies from two to five feet or more in depth. As they communicate with the Gulf by tunnels, the water is constantly freshened, and the waves' dashings are also felt in them. Marianao is some seventeen miles from Havana and has a higher situation. It is only a short drive to the sea-shore from this suburb, and here also are bathing facilities as well as a yachting club. Still farther off, several hours by rail, lies

San Diego de los Baños, a resort much frequented by Cubans as a health station on account of the springs and baths, which are particularly efficacious in rheumatic affections. Back in the mountains are various places hardly as yet fitted for the reception of invalids, which some time will prove valuable additions to the lists of the climatologist. Patients suffering from tuberculosis, rheumatism, and neurasthenia will find Cuba equal, if not superior, to many of our own resorts in many points, besides which it possesses the novelty of a tropical flora and fauna and a picturesqueness of towns and people not to be found in the uninteresting and monotonous mainland lying immediately to the north of it. Some time when this rich island shall have thrown off the Spanish yoke and become one of our States, not only will her agricultural, arboreal, and mineral wealth be enormously developed instead of lying idle as now, but we shall find her, from a medico-climatological standpoint, one of our richest treasures.

Florida.—This State, with its warm, moist, enervating climate; its endless monotony of flat sand; its tedious and uninteresting vegetation; its marshes and lagoons, abounding in malaria; its towns, unpaved, hot, dusty, and composed for the most part of the desolate and cheerless wooden buildings which make them a blot upon the landscape—this State is so familiar to the profession that it would be difficult to add a word that is new, either in praise or in criticism. There are towns that are charming, to be sure, and where the visitor may find a pleasant asylum from the winds and storms of the North during the later winter months; and such are Tampa, with its fine new Tampa Bay Hotel; St. Augustine, deservedly famous for its wonderful caravansaries of Spanish architecture; some of the places that lie upon the Indian River; and towns like Sanford, Palatka, and Jacksonville. In these at least there are means for whiling away the tedium of existence, either with gun, rod, oar, and sail, or by the less alluring and more ordinary methods, taking part in the gayety and forming an integer in the pageant of the hotels. *Suum cuique!* This is all very well for the healthy man who flies the rigors of a northern zone for comfort merely, but it would seem that the invalid might find an atmosphere and an environment more suited to his malady and less dispiriting to his soul. Surely in a few years we shall not advise the consumptive to go to Florida, when just north of here in Georgia and the Carolinas, and in the Far West, are climates better adapted to meet the exigencies of his case.

South Carolina.—Some twenty miles from Charleston lies Summerville, a village full of Northern people, who winter on this low ridge of pine-clad sands, which rises but a few feet above its malarial and paludal surroundings. It is comparatively healthy in winter, but it seems a pity to see hundreds of pretty furnished houses on Sullivan's Island in Charleston Harbor unoccupied the whole winter (because this island is one of the summer resorts of the Southerners), when they might become such healthful habitations for Northern invalids who now crowd into the squalid cottages and third-rate boarding-houses of Summerville. It is doubtful if the air of the latter place with its neighboring marshes, and even adding thereto its attenuated piney flavor, can instill such new vigor into a delicate frame as the balmy ozonized sea-breezes which sweep over Sumter and Moultrie to Sullivan's Isle.

But four or five hours westward from Charleston one strikes the "pine-barrens" of South Carolina, sand-dunes that rise to the height of six or seven hundred feet above the sea-level, deep woodlands of the long-leaved pine covering them in every direction. Aiken is at the highest point. Coming upward from the moist hot South, leaving the unvarying and unending flat sands and marshes of Florida and the Carolina coast, one has a sense of both mental and physical rejuvenation in breathing in these cool, dry, terebinthine airs. One is quite ready to believe the Aiken traditions that iron never rusts there and that molds are unknown. It is alleged for Aiken that it is the driest spot east of Colorado; but as this statement is also made for Summerville (a suburb of Augusta, Ga.), for Thomasville, Ga., and for Asheville, N. C., one is somewhat at a loss as to which statement to credit. The average relative humidity of Aiken has been determined to be 58° by one of the physicians residing there. Since Augusta is 70° and New York 70°, the unfortunate victim of rheumatism ought to find in Aiken a dryness adapted to his complaint, and need not necessarily exile himself to Egypt, Cannes, or Hyères, although these places are drier. There are some forms of nervous disease which will do well in Aiken. They are neurasthenia, insomnia, and rheumatic and malarial neuralgias. For consumption, Aiken, in common with Thomasville, undoubtedly presents the best advantages of any resorts east of the Rocky Mountains. They are warm enough for winter residence; they are dry; the number of sunny days is above the average of many other places; the soil is so dry that, no matter how rainy some seasons may be, yet walking out of doors is never impossible. When Florida shall have ceased to lure the patient with pulmonary disease, when Asheville shall again take its legitimate place as a summer and not a winter resort, when the fashion of wintering in the Adirondacks with delicate lungs shall have gone the way of the Minnesota craze, then shall Aiken and Thomasville still remain the mainstay and refuge of the great majority of such tubercular patients as are for some reason or other forbidden Colorado and California. This is said without intending to deny the beneficial effects often seen in consumptive patients who have wintered in Asheville or Minnesota or the Adirondacks, but patients who have improved in those places, in spite of the inclemencies of the wintry weather, would have done so, I believe, by making any change at all from the manner of life they were leading—any change which would insure out-of-door exercise, hygienic surroundings, plenty of pure air, and a difference in altitude and humidity.

Georgia.—Thomasville is lower than Aiken and somewhat warmer. They are otherwise much alike. The pine-barren region reaches to Augusta, but this city is low, surrounded by artificial lakes and canals, malarial, unhealthful. Its suburb, Summerville, is dry, covered with pine woods, and has the advantage of a very fine hotel for invalids, the Bon Air. It is, however, much lower than Aiken, and the proximity of Augusta can not be advantageous from a sanitary standpoint.

One should not pass over Georgia without a reference to one of its most remarkable health resorts. Among the Southerners it shares with that fabulous humbug the "electropoise" the notoriety of being a panacea for most human ills. I refer to the electric mound at Hilman. Some sharper discovered a mound in which he professed to find "natural electricity." A shaft was sunk into it and an artificial cavern fifty feet long by twelve feet wide was excavated in it. This was divided into three compartments, each having seats for twenty or more people, and lighted by holes in the roof. Now you may learn all about it from a twenty-seven page pamphlet, or from the frequenters of the electric sanitarium close at hand. The end of the cavity is said to be of alum rock, and in this the electricity resides. It is much frequented by invalids, and often sixteen to twenty people are taking in the electricity through their bodies disposed in various attitudes against this remarkable rock. There are very few who do not feel the subtle current sooner or latter—if they wait long enough! The sensation is described as peculiar—similar to that experienced when one's foot goes to sleep. Sometimes there is a decided pulsation, it is said, in the ends of the fingers, and again a feeling as of being delicately pricked by a thousand needles may be perceived for hours after leaving the shaft. The current is fitful and intermittent. Now you feel it, and now you don't.

It would be curious indeed if one did not experience singular sensations, such as are described, sooner or latter, after occupying some cramped position for hours, in a gloomy cavern, surrounded by the dim and grotesque figures of many others who, like himself, were in that condition of expectant attention which requires but the slightest suggestion or auto-suggestion to transform common sensibility as well as common sense into a belief in an electric mound. Rheumatism, dyspepsia, paralysis, neuralgia, lameness, insomnia, chronic gout, and most gynæcological difficulties, are some few of the disorders cured by its use.

If any one ever doubted the existence of this natural current of electricity in the mound at Hilman, all doubts are at once dispelled by the expert examination made by a person whose experiment I transcribe from his own words (Italics mine): "Two No. 16 copper wires, each twelve feet long, were inserted into the walls at opposite corners of shaft No. 1. *In the absence of a scientific galvanometer*, I introduced into the circuit of these wires several of the most equable and self-poised patients who were present, to see if they could detect any current from the wall through the wires. Six persons were introduced in succession, and all except one came to feel in the wires the same tingling sensations derived directly from the wall."

North Carolina.—Asheville and Hot Springs, in the western part of the State, have a deserved reputation of being both high and dry. They are respectively 2,400 and 1,330 feet above tide water, and they are undoubtedly the driest of any of our Eastern mountain resorts. There is nothing in the Catskill, Green, or White Mountains to compare with this region for beauty of scenery. Asheville has grown enormously during the past three or four years, owing to the knowledge of its climatological features which has been diffused among the profession. While it is to a certain extent an all-the-year-round resort, there are some facts in this connection that are not sufficiently known or appreciated by physicians. In the first place, we have not been wont to consider it a summer resort; but this it is, *par excellence.* The mean summer temperature is 71·3°. It is a better summer than winter resort. Moreover, we have been accustomed to commend Asheville for the later winter months, and in this we have made a great mistake.

The Asheville season is properly the nine months from the 1st of April to the 1st of January. During these months it is everything that has been claimed for it. But the months of January, and particularly February and March, are cold and rainy. Many of the residents of Asheville even spend this inclement season elsewhere. This past winter was, of course, extraordinarily dismal everywhere, but another such season as was passed here would go far to ruin this resort forever as a health station. For three months there was constant rain and fog. When we take into consideration the fact that the superficial soil of this region is mostly red and yellow clay, and that there are no pavements and very few sidewalks in the town, we can realize the unhappy condition in which invalids were placed at this time. The mud was from one to two feet deep. Such a thing as riding, driving, or walking out of doors was not to be thought of. Some of the streets could not be crossed for months. The sooner it is understood that these three months are improper ones to be passed at Asheville, the better for our patients. Going from here a little farther south to the dry soils of Aiken and Thomasville, the invalid may spend January, February, and March profitably, returning to the mountain region for the rest of the year. What has been said of Asheville applies also to Hot Springs. Asheville has at present few good hotels. A number of good hotels are planned, and one—Kenilworth Inn—will be opened next season. At present the only place that can be recommended for invalids is the Oakland Heights Hotel, which partakes partly of the nature of a sanitarium. It is clean, quiet, homelike, beautifully situated; the table is excellent, and connected with it are a fine gymnasium and a good hydrotherapeutic establishment.

A Concluding Observation.—One of the most striking faults in many of the Southern resorts is the almost total neglect by hotel and boarding-house keepers of precautions against the dissemination of tubercular germs. On the verandas sit numerous consumptive patients, who carelessly cover the floor with their expectorations. There they are desiccated by the warm, dry air, and undoubtedly millions of bacilli are wafted by the light winds to and fro about the house. While cuspidors are commonly to be found in the offices and smoking-rooms, they are hardly ever distributed about the piazzas and in the hallways and bedrooms. Even if they are, they are not kept half filled, as they should be, with water or some antiseptic solution. If this is true of the exterior of the building, what may we not imagine of the bed-chambers, where many invalids spend months of time year after year? Upon this point I shall quote from an article by a prominent physician in an important tubercular health resort as follows:

"For a number of years I have resided near a large hotel which during the winter is frequented by a number of consumptives in every stage of their disease. These people in expectorating not infrequently miss the spittoon, and the muco-purulent sputa reach the carpet-covered floor. Others, again, use their pocket-handkerchiefs as cuspidors, or, as I have seen them do, they spread over the bed a large newspaper for that purpose, preserving it until the physician makes his visit, in order that he may see the amount and character of the expectoration. Thus, even when not deposited upon the floor in the first instance, the sputum dries, and portions of it, after being diffused through the atmosphere of the rooms, eventually settle upon the carpet. There, mixed with dust, the bacilli are frequently stirred up by sweeping. This goes on for months; day after day, week after week, the process is repeated, and it would be difficult to devise a better method of making a wholesale collection of tubercular bacilli." *

Now, this being true of a hotel where every summer the carpets are beaten and the rooms whitewashed, some slight effort at least being made to dispel these dangerous unseen enemies, how much worse must it be in many hotels, and particularly boarding-houses, where no attempt whatever is made to protect invalids and visitors from infection! Yet it is to these places we send our patients with delicate lungs, and their friends and relatives go with them, unconscious of the ambush of invisible enemies that awaits them. When the proprietors of hostelries shall have bestirred themselves to learn a little of antisepsis, the risk will be less; but why not in the mean time advise consumptives to build their own cottages, go to some unfrequented farm-house, or take refuge in tents?

TWO CASES OF INTERSTITIAL KERATITIS
OCCURRING IN THE
TERTIARY PERIOD OF ACQUIRED SYPHILIS.

By F. W. MARLOW, M. D., M. R. C. S. E.,
SYRACUSE, N. Y.,
PROFESSOR OF OPHTHALMOLOGY IN
THE MEDICAL DEPARTMENT OF SYRACUSE UNIVERSITY.

CASE I.—Mr. J. E. B., aged thirty-nine, was referred to me on January 4, 1885, by Dr. W. H. Mills, of this city.

He gave a history of syphilis acquired twenty years previously, for which he underwent constitutional treatment of from one to two years' duration. For the past five years the left pupil has been dilated and near vision blurred; the right has been in a similar though less marked condition for two years.

Condition at first examination:

R. V. = $\frac{6}{12}$ partly — 0·75 cyl. 180° $\frac{6}{6}$. P. moderately dilated, not round; no action to light; fair action with accommodation.

L. V. = $\frac{6}{6}$ em. P. half wide, larger than R. No action to light; ? slight action with acc. Had been wearing R. + 3·25 D. sph. L. + 3 D. sph. for reading.

Iodide of potassium was prescribed in increasing doses.

March 11th.—R. P. slight action to light and acc.; + 0·75 gl. 90° gives 1 J. p. 9″.

L. P. motionless; + 4 D. gives 1 J. p. 7½″.

May 13th.—Taking thirty grains of iodide of potassium three times a day. R. P. acts well but not fully to light, and with acc. + 0·75 c. 90° = 1 J. p. 7½″.

L. P. acts slightly to light; + 4 D. gives 1 J. p. 6¾″.

On June 14th the iodide was discontinued, and shortly afterward he went to the Thousand Islands, where he had an attack of measles.

On July 23d he came back, saying that fourteen days previously he had noticed distant vision failing, that he had been on the water a good deal, that sight gradually became worse, and much worse during the past twenty-four hours.

Examination showed R. V. with — 0·75 c. 180° = $\frac{6}{9}$ partly; slight diffuse haze of cornea, most marked down-out, and slight ciliary congestion.

L. V. = $\frac{6}{24}$ partly. Considerable patchy haze all over cornea, dulling the iris and obscuring the fundus; considerable ciliary congestion. There were no dots on either cornea at this date.

Mercury internally and atropine locally were prescribed.

August 3d.—Much less haze and congestion. L. keratitis punctata showing the typical triangular distribution; very little of original haze left.

13th.—Slightly salivated. Ordered iodide of potassium and nux vomica.

23d.—Haze thinner. Still numerous dots on back of L. cornea, which can be seen only by direct method with strong convex lens behind the mirror.

30th.—Haze and keratitis punctata much less. Some movable dust-like opacities in vitreous.

R. V. = $\frac{6}{6}$, well.

L. V. = $\frac{6}{12}$ partly.

Gradual improvement took place.

On September 28th keratitis punctata had entirely disappeared. Opacity in vitreous decidedly thinner.

L. V. = $\frac{6}{6}$ partly; + 4 D. = 1 J. p. 6¼″.

Although my case-book contains no statement of the fact, I am reasonably sure that the right cornea passed through a stage of keratitis punctata as the diffuse haze disappeared. The vitreous of this eye remained healthy throughout.

Shortly after the last date this patient went west, and the final result to the left eye is unknown to me.

CASE II.—Mrs. A. B., aged fifty-seven, referred to me by Dr. John L. Heffron, of this city, to whom I am indebted for the early history of the case.

Mrs. A. B.'s daughter, Mrs. C., had a primary chancre on the lip about January, 1882, the infection being transmitted, with little doubt, by the use of a public drinking fountain, she having at the time a cold-sore on her lip. She was married in September of the same year and gave birth to a female child, who never had any general eruption, but at the age of six months had inflammation and ulceration of the finger nails of both hands, yielding to mercurial inunction. Since then the child has had various syphilitic manifestations, yielding to appropriate treatment. The husband did not and has not become infected.

Mrs. A. B. had throughout a large share in the care of her grandchild, and in the spring of 1884 her own health began to fail; she complained of sore throat, but no primary sore was noticed. She came under the care of Dr. Heffron on July 22, 1886. His notes of that date say: "Mucous patches in angles of lips, roof of mouth, and fauces; syphilides on skin of arms and legs." On October 24th she brought a note from Dr. Heffron in which he says: " . . . She has been under my care since early summer for a tertiary lesion of the nose. You will find a depressed scar on the left side of the septum, where was an ulceration that involved all the soft parts and bared the periosteum and cartilage anteriorly. . . . She has taken large doses of iodide of potassium (as high as one hundred and fifty to two hundred grains in twenty-four hours) and tonic doses of mercury. The iodide was continued all summer, but in gradually diminishing doses, and on October 1st was discontinued. It is since the discontinuance of the iodide that the eye trouble has appeared. . . ."

---

* Aseptic Climates without Altitude. By W. H. Geddings, M. D. New York *Medical Record*, Dec. 22, 1888.

The patient's statement was that three weeks ago the right eye began to ache and get red; that for a little more than a week the sight has been smoky and has gradually grown worse.

The left eye has always been defective. There has been no change in it recently.

Examination of the eyes on the same date showed—

R. V. = $\frac{6}{36}$ partly, with — 1·5 D. sph. $\frac{6}{24}$ partly, with + 3·5 D. sph., reads 6 J. slowly. P. 3 mm., round, acts fairly to light. Well-marked interstitial keratitis at lower and central part of cornea. Haze patchy, no keratitis punctata; development of new vessels in the cornea from limbus of conjunctiva down-in. T. n.

Ophthalmoscope shows small, irregular myopic crescent: Too much corneal haze to be sure of condition of optic disc and retina, but apparently normal.

L. V. less than $\frac{6}{60}$ not improved.

P. 3 mm., cornea quite clear (it remained so throughout). Ophthalmoscope shows high myopia, opacities in vitreous, and total or very extensive detachment of the retina.

November 5th.—Haze has extended all over the cornea; is thin everywhere; ? thinner down-in than on first visit. Still some vessels in cornea in that situation; very little congestion. V. $\frac{6}{0}$ not improved.

13th.—Cornea has cleared greatly. Eye almost free from congestion. With — 3 D., V. = $\frac{6}{24}$.

20th. — With — 2 D. s., and — 2 D. cyl. 90°., V. = $\frac{6}{18}$ partly. Now only one or two small dots on cornea (? keratitis punctata). One floating opacity in vitreous.

December 3d.—Fresh haze at outer portion of cornea.

15th.—Haze has entirely disappeared. V. = $\frac{6}{18}$ with correction. Several floating opacities in vitreous.

There was no relapse of the keratitis. Eighteen months or two years later, Mrs. A. B. developed symptoms of cerebral disease, and after a lingering illness died.

Cases of interstitial keratitis in acquired syphilis have been put upon record by Hutchinson,* Alexander † (thirteen cases), Symons, ‡ and others,# but they are admittedly of very rare occurrence; indeed, so recently as 1889, in an editorial interpolation in Schmidt-Rimpler's *Ophthalmology and Ophthalmoscopy* (p. 413), Dr. D. B. St. John Roosa makes this statement: "As to acquired syphilis, I think it is very rarely, if ever, the cause of diffuse keratitis." In the cases above referred to and in those now described there was no doubt as to the presence of syphilitic infection, both from the history and from the presence at the time of the examination of typical syphilitic lesions.

Hutchinson says, in *Syphilis:* "Keratitis and complete deafness in the acquired disease are almost equally rare, but when they do occur it is in the secondary period, and they are symmetrical."

Nettleship describes it as occurring "usually" in the secondary period.

Symons's case, most of Alexander's, and both of my own, belong to the tertiary period; and in one of Alexander's and in one of my own the disease was limited to one eye.

It might be objected that in Case I the keratitis was directly due to the attack of measles. I am not aware that any case has been recorded of diffuse keratitis, keratitis punctata, or vitreous opacity resulting from this exanthem. Although it occurred very long (twenty years) after the primary disease, its association with cycloplegia and mydriasis, and its rapid improvement under mercurial treatment, point very strongly to its specific nature.

It is worthy of note, though the relation may be accidental, that in both cases the inflammation started very soon after the exhibition of large doses of iodide of potassium had been discontinued.

It is scarcely necessary to call attention to the contrast the two cases just described present to those occurring in inherited syphilis. The short duration of the disease, the complete clearing of the cornea, the stage of keratitis punctata, are certainly events not frequently observed in the somewhat common cases of diffuse keratitis due to inherited syphilis. Occasionally, however, the disease is of the severest and most prolonged type, resulting in serious damage to vision.

In connection with this subject it may not be out of place to mention that I have observed in three cases of syphilitic iritis, after the acute iritic symptoms had passed off, the development near the center of the cornea of a single, round, soft-edged spot of grayish haze in the substantia propria, the cornea finally becoming quite clear. In one of the cases keratitis punctata occurred during the clearing process.

401 MONTGOMERY STREET.

CACTINA:

A NEW AND VALUABLE CARDIAC STIMULANT.

ITS ORIGIN, PHYSIOLOGICAL ACTION, THERAPEUSIS, ETC.

BY O. M. MYERS, M. D.,
ROCHESTER, N. Y.

CACTINA is the proximate principle of the plant *Cereus grandiflora* (the night-blooming cereus; Ger., *Königin der Nacht*), natural order *Cactaceæ*, which is indigenous to tropical America. The active principle has been successfully isolated by Frederick W. Sultan, Ph. G., the well-known pharmaceutical chemist of St. Louis. For this purpose he employs the young flowers and stems of the Mexican variety, in which the yield is greater and more constant than in other species. It is thus described: "The stem is branching, fleshy, green, and five or six angled. The angles are beset with clusters of five or six short radiating spines. The numerous imbricated calyx lobes are linear, acute, brownish, the inner ones yellow. The flowers, which open in the night, are very fragrant and produce an orange-colored, internally white berry the size of an egg. The flower of this species is decidedly the richer in active principle and yields 0·021 to the 1,000, or over two per cent."

---

* *Syphilis*, 1887, pp. 238–239.

† *Syphilis und Auge*, 1889, p. 41 *et seq.*

‡ *Trans. Ophth. Soc.*, United Kingdom, 1886.

# *Vide Syphilis und Auge.*

Physiological Action.—Locally, cactina is absolutely non-irritant, a ten-per-cent. solution applied to the conjunctiva producing no noticeable effect.

Therapeutic doses, in man and animals, produce an acceleration of the pulse and a rise in the arterial pressure.

Toxic doses, in animals, produce primarily an acceleration of the pulse-rate and a rise in the arterial pressure, but, secondarily, notably diminish both. The cardiac pulsations become arrhythmical and finally cease, the heart being arrested in systole. The systoles, just before death, become very incomplete, probably due, as will be shown below, to a condition of superirritability of the cardiac ganglia. Death is preceded by tetanic and clonic convulsions, due to overstimulation of the motor side of the spinal cord. That the convulsions are not of cerebral origin is evident, as they occur after section of the cord in the upper cervical region. The motor nerves remain unaffected, for, after the death of the animal, galvanization produces contraction of the muscle. Cactina is therefore a powerful *motor spinal stimulant.*

EXPERIMENT No. 1.

Normal animal; dog; weight, 6·5 kilos.

TIME.	DOSE.	PULSE.	PRESSURE.	RESPIRATION.	REMARKS.
M., S.	Grammes.	In a M.	MM.	In a M.	
0.0	·00	180	145	28	
.10	·002	....	....	....	
.40	...	192	152	30	
1	....	202	158	30	
2	....	210	162	28	
2.20	·003	....	....	....	
2.40	...	206	160	30	
3	....	210	162	28	
4	....	218	176	32	
4.18	·004	....	....	....	
4.30	....	216	178	30	
5	....	220	190	30	
5.22	·005	...	....	....	
6.10	....	218	190	28	
8	....	222	196	28	
9	....	222	198	24	
11.20	·008	....	....	....	
13	....	222	202	19	
15.26	·01	....	....	....	
18	....	190	178	15	
20.12	·04	....	....	....	
22	....	164	140	....	
22.20	....	....	....	....	Clonic and tetanic convulsions.
22.50	....	....	....	....	Tracheal cannula inserted and cord cut at second cervical vertebra. Convulsions continue.
23.40	....	....	....	....	Death. Faradaic current to motor nerves produces contraction. Autopsy showed marked spinal hyperæmia, and that section of cord was complete.

In a dog, after section of the vagi, the pulse-rate and arterial pressure were both increased by an injection of two centigrammes of the drug, and a strong faradaic current, when applied to the nerve (vagus), failed to arrest the heart's action. (*Vide* Experiment 2.)

EXPERIMENT No. 2.

Animal with vagi cut; cannula inserted; weight, 10 kilos.

TIME.	DOSE.	PULSE.	PRESSURE.	RESPIRATION.	REMARKS.
M., S.	Grammes.	In a M.	MM.	In a M.	
0.0	·00	184	150	15	
.10	·002	....	....	....	
.30	....	206	166	11	
1	....	204	170	40	
3	....	210	178	68	Galvanization of vagi failed to arrest the heart.
5	....	200	182	84	
8	....	210	190	90	
8.30	·03	....	....	....	
10	....	212	180	40	Sympathetics cut.
12	....	200	178	18	
13.20	·03	....	....	....	
14	....	182	164	13	
16.30	·05	....	....	...	
17	....	168	162	....	
18.22	....	....	168	....	Convulsions.
22.10	....	....	....	....	Death.

After section of the pneumogastrics and the sympathetics an intravenous injection of three centigrammes of cactina still maintained a decided rise in the arterial pressure and an acceleration of the pulse-rate. (*Vide* Experiment 2.) A fair conclusion, therefore, is that the drug produces these effects chiefly by *direct* stimulation of the intracardiac accelerator ganglion.

In the dog, after an intravenous injection of five milligrammes of cactina, the heart-rate was increased from 180 pulsations a minute to 222 a minute, and the cardiometer, indicating normally a height of 145 millimetres, showed an increase of the arterial pressure by a rise of 53 millimetres. (*Vide* Experiment 1.) If an animal is placed under the influence of cactina and the cardiometer applied, the blood-pressure, as before stated, will register about 198 millimetres. Now, if the spinal cord is cut high up, thereby intercepting the impulses from the medullary vaso-motor center, the arterial pressure will instantly drop about twenty millimetres. This would indicate that the increased pressure was not wholly due to increased cardiac action, but a result of stimulation of the vaso-motor center in the brain.

SUMMARY.—Cactina in therapeutic doses—

1. *Increases the musculo-motor energy* of the heart, probably through its influence upon the intracardiac motor and accelerator ganglia, in consequence of which the cardiac impulses become regular and much stronger.

2. *Elevates the arterial tension*, increasing correspondingly the height and force of the pulse wave. This is produced by—*a*, increased cardiac action; *b*, stimulation of the vaso-motor center at the base of the brain.

3. *Influences the nervous system* by its direct action upon the motor centers of the spinal cord, thus increasing the reflexes and elevating the general nervous tone. Herein cactina resembles strychnine, and other points of similarity are evinced by clinical observation.

Therapeutics.—It logically follows, if conclusions as to its physiological action are correct, that in cactina we have a powerful cardiac tonic-stimulant. Clinical observation teaches that its greatest value is manifest in functional disturbances of the heart, as simple dilatation and cardio-muscular atony (resulting from deficient innervation and nutrition) without organic lesions. If valvular disease exists, accompanied with dilatation, the drug would seem to be clearly indicated. In conditions of cardiac and general muscular relaxation with impaired nerve energy, and in cases of "irritable heart," "tobacco heart," etc., the drug accomplishes excellent results; probably by, *a*, stimulation of the spinal motor-nerve centers; *b*, constantly stimulating the heart muscle to action and thereby increasing its nutrition and development.

A special indication for its use is during the critical periods of adynamic fevers, as it combines the elements of a heart and spinal motor stimulant.

Unlike digitalis, cactina may be administered continuously without fear of exciting gastric disturbance, and the objectionable cumulative action of the former drug is entirely absent. In short, cactina may be employed with benefit in all varieties of functional cardiac and circulatory disturbances and in organic heart disease, except in cases of *mitral stenosis*, where digitalis is to be preferred on account of its power of prolonging the diastolic period, thus affording the ventricle power and time to entirely empty itself. *Per contra*, in *aortic insufficiency*, the short diastole produced by cactina allows no time for regurgitation of blood into the ventricle, whereas digitalis, by prolonging the diastolic period, favors just what we should seek to prevent.

Preparations of *Cereus grandiflora*, *C. Bonplandii*, *C. McDonaldii*, and other allied varieties, have long since been employed in medicine, but the results have been uncertain. This is accounted for by the fact that the yield of active principle varies greatly in the different species of the plant and in the same species in different habitats. Under such circumstances the strength of preparations would necessarily be so inconstant as to make them unreliable for use. The same may be said of many other valuable drugs, such as cannabis indica, ergot, etc., of which two preparations of the same strength can hardly be found. This difficulty has been entirely obviated in the case of *Cereus grandiflora*, for, by the isolation of its active principle, we have the means of employing it in constant and definite quantities.

Resorcin in Rodent Ulcer.—According to the *British and Colonial Druggist*, "Boeck has obtained unusually good results by treating rodent ulcer with Unna's resorcin plaster, and selects two cases as examples. In one there was an ulcer an inch and a half square, which had lasted ten years. The surface was everywhere open, moist, and suppurating. The resorcin plaster was applied and changed daily. After a few days considerable improvement was observed, and after two months the whole ulcerated surface was healed over, only here and there being a minute oozing point. In the second case the ulcer had lasted for six months, and was about a centimetre square, with raised infiltrated borders. Excision was declined (the patient was about eighty-two years old), and resorcin plaster was applied. In seven weeks, when the patient was accidentally met, the ulcer was found to have been long healed, and treatment given up. A shallow, slightly reddened cicatrix remained. Unna reports a similar case."

THE
NEW YORK MEDICAL JOURNAL,
A Weekly Review of Medicine.
Published by
D. Appleton & Co.
Edited by
Frank P. Foster, M. D.

NEW YORK, SATURDAY, JUNE 13, 1891.

A TOOTH PLATE LONG IMPACTED IN THE ŒSOPHAGUS.

At the present time, when the mortality after very severe operations is so small, it seems strange that a patient should suffer for so long a time from the dysphagia dependent on the presence of a tooth plate in the œsophagus, and almost incredible that a surgeon should seriously attempt to remove such a body, impacted for so long a time as five years and nine months, by means of instruments introduced through the mouth. But Mr. Furner records a case in the *Lancet* for May 2d, in which a silver-gilt tooth plate with three gold hooks and carrying three teeth was known to have been swallowed on a certain date, more than five years before the patient came under his observation. During this time the dysphagia had varied, but had always been present, and there had been occasional dyspnœa. Only liquid food, occasionally thickened with minced meat or bread crumbs, could be taken. Mr. Furner says that when he first saw the woman a probang passed down the œsophagus met with obstruction ten inches and a half from the teeth; a coin-catcher got hold, but traction only seemed to tilt the plate into the surrounding tissues. A long œsophageal forceps gripped the body firmly, but slipped off, and no fresh hold could be obtained. The patient declined further treatment at that time, but returned three months later for the operation of œsophagotomy. The plate was removed through an incision in the posterior wall of the œsophagus. It was found lying in large part in a sac to the right of the œsophagus, and, even when it was within the reach of the surgeon's fingers, a strong forceps and the exertion of considerable force were required to remove it. The patient made a good recovery.

In the light furnished by the disclosure of the actual condition at the time of operation, there is little doubt that Mr. Furner rejoices over his failure to dislodge that foreign body in his first attempt. It is difficult to conceive of a much more hazardous operation than the dislodgment of a foreign body of such shape from the tissues of the œsophagus, where it had lain imbedded for so long a time, and its removal by being dragged upward into the pharynx. From the long period of its retention the inference was justifiable, and indeed unavoidable, that it had become imbedded to a greater or lesser degree, and that its dislodgment would cause lacerations in the œsophageal walls which would be very liable to be increased by the traction incident to its being drawn upward, even though the walls of the œsophagus above that point escaped injury. Such lacerations would be dangerous to the highest degree on account of hæmorrhage and of the escape of food through them into the surrounding tissues, and the danger would not be lessened by the fact that the presence of such lacerations could not be ascertained, or the lacerations repaired without recourse to the operation which it was hoped could be avoided.

POLYMASTIA AND ITS RELATION TO NEOPLASMS.

Mr. Roger Williams, F. R. C. S., has contributed to the *Journal of Anatomy and Physiology*, vol. xxv, his views concerning the evolution of supernumerary mammary glands. He combats the opinions that have lately been expressed that these abnormities are of the nature of "sports" (*lusus naturæ*). Such an opinion, he avers, is incompatible with the principles of heredity, which recognize the mammary gland as a highly specialized organ and one that is too complex in its evolution to be comprised, in any of its developments, among the erratic creations of nature. According to the doctrine developed by the writer, the mamma is a sebaceous gland specialized up to its present condition by gradual processes. The nipple is one of the later amplifications, since it is not found in the ornithorrhyncus; it does not develop until the glandular elements have been fully formed. Mr. Williams infers from his investigations that there were originally no fewer than seven pairs of glands upon the ventral aspect of the body, instead of the single pair that has survived in the pectoral region, and that three of these pairs were above and at least three were placed below and interiorly to the surviving pair. Mr. Williams has found about fifty cases of polymastia recorded in the periodical literature of recent years, and he has made notes of the reported tendency in supernumerary mammary structures to the development of neoplasms. It was stated in regard to seven of these fifty cases that fibro-adenoma had its origin in the erratic mammæ, or about seven per cent., and nearly the same proportion of cases of cancer had a like location.

MINOR PARAGRAPHS.

SPORADIC CRETINISM.

Dr. Railton, in the *British Medical Journal* for March 28th, reports two cases of this disease. The patients were brothers, and the family history threw no light upon the ætiology of the disease. The eldest was eleven years of age and had the symptoms to a marked degree. The features were broad and coarse, the eyes were set wide apart, and the root of the nose was flattened, while the alæ and septum were thickened and the nostrils dilated. The thick, everted lips were habitually open, with a large tongue protruding between them. The expression was calm but vacant, and he rarely spoke and never formed a sentence. The thyreoid gland was present and could be felt as a small, firm body. There were no pseudo-lipomata. The younger brother was six years of age and showed the characteristic signs to a much lesser degree. There was a small thyreoid gland, but there were no pseudo-lipomata about the neck or body. The distinction recently drawn by Bourneville between endemic and sporadic cretins the author believes to be unnecessary. The former are said to be descended from goîtrous parents, while the latter are not. Generally speaking, this is correct. It has also been asserted that the subjects of endemic cretinism are frequently goîtrous and have no pseudo-lipomata in the supraclavicular regions or elsewhere, while the subjects of sporadic cretinism are invariably without thyreoid glands and present the pseudo-lipomata. As a matter of fact, the two forms not only present the closest identity in symptoms, but have now been conclusively proved to depend upon the same fundamental pathological condition—namely, loss of function of the thyreoid gland. It is the author's belief that the difference between the two is sufficiently marked by the terms endemic and sporadic cretinism, but that it is not sufficiently great to warrant their being accepted as two different diseases.

THE CONDITION OF THE LEFT SIDE OF THE HEART IN MITRAL LESIONS.

The *Gazzetta degli ospitali* for April 12th contains a notice of Briquet's recent work on this subject. After giving the measurements of the normal heart, the author proceeds to study the effects exerted by mitral lesions, first upon the left auricle, and then upon the left ventricle. The following are his principal conclusions: The left auricle is dilated and hypertrophied in mitral insufficiency and stenosis. either single or combined. Dilatation prevails in insufficiency, hypertrophy in stenosis. The left ventricle is neither hypertrophied nor dilated in pure mitral insufficiency. The left ventricle is not hypertrophied, but its cavity is diminished in size, in pure mitral stenosis. The left ventricle is neither hypertrophied nor dilated in insufficiency combined with stenosis of the mitral valve. When, in a case of mitral affection, there exists hypertrophy of the left ventricle, the cause must be sought elsewhere. This cause may be various and may have its seat at the aortic orifice or in the arterial system, the pericardium, the kidneys, etc.

LIEBREICH'S CANTHARIDIN.

In a letter to the *University Medical Magazine*, Dr. Walter F. Atlee, of Philadelphia, after alluding to the well-known fact that lanolin is nothing new, having been familiar to Pliny, remarks that the same ancient author spoke of various preparations of cantharis being used for the same purpose for which Dr. Liebreich has brought his cantharidin forward. Dr. Atlee conjectures that we may soon hear of *ovin*, inasmuch as Pliny extolled the efficacy of eggs in erysipelas, burns, and pimples.

THE *MEDICAL NEWS*, OF PHILADELPHIA.

With the issue for June 6th Dr. Hobart Amory Hare retired from the editorship, and the *News* announced that he was to be succeeded by Dr. George M. Gould, of Philadelphia. Our excellent contemporary is to be congratulated on the acquisition of so accomplished a man as its editor. Dr. Gould's ability as a writer is well known, and we do not doubt that he will display the other qualities needed in editorial work.

THE RUSH MEDICAL COLLEGE, OF CHICAGO.

The appointment of Dr. John B. Hamilton, late surgeon-general of the Marine-Hospital Service, to the chair of the principles of surgery and clinical surgery in the Rush Medical College seems to us most judicious. Dr. Hamilton's well-known energy and his devotion to surgery may be counted on to enhance the efficiency of the college materially.

ITEMS, ETC.

The Society of the Alumni of Bellevue Hospital.—At the forty-first meeting, held on Wednesday, the 3d inst., officers for the ensuing year were elected as follows: President, Dr. Egbert Le Fevre; vice-president, Dr. W. R. Townsend; secretary, Dr. William N. Hubbard; treasurer, Dr. R. J. Carlisle.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported during the two weeks ending June 9, 1891:

DISEASES.	Week ending June 2.		Week ending June 9.	
	Cases.	Deaths.	Cases.	Deaths.
Typhoid fever	9	4	11	6
Scarlet fever	218	46	187	30
Cerebro-spinal meningitis	4	3	0	1
Measles	316	10	381	18
Diphtheria	107	25	94	31
Small-pox	0	0	1	0
Varicella	5	0	4	0
Whooping-cough	3	3	1	1
Erysipelas	2	0	3	0
Mumps	0	0	1	0

The Ohio State Medical Society will hold its forty-sixth annual meeting at Sandusky on Wednesday, Thursday, and Friday, the 17th, 18th, and 19th inst., under the presidency of Dr. W. J. Conklin, of Dayton. Besides the president's address, entitled A Page of Medical History: Molière and the Doctors, the programme includes the following titles:

The Surgical Treatment of Chronic Catarrhal Appendicitis, by Dr. R. Harvey Reed, of Mansfield; Notes on the Treatment of Syphilis, by Dr. W. T. Corlett, of Cleveland; A Plea for a More Extended Supervision of the Parturient Woman, by Dr. D. R. Silver, of Sidney; Hernia, by Dr. Dudley P. Allen, of Cleveland; Carcinoma a Form of Perverted Nutrition, by Dr. H. J. Herrick, of Cleveland; A Rare Case of Pelvic Dropsy; Operation; Cure, by Dr. J. F. Baldwin, of Columbus; Spinal Supports, by Dr. S. L. McCurdy, of Dennison; Compound Ganglia; Treatment by Operation, by Dr. C. S. Hamilton, of Columbus; Three Cases of Radical Cure of Hernia by the Use of the Buried Antiseptic Animal Suture, by Dr. F. C. Larimore, of Mt. Vernon; The A. C. E. Mixture, by Dr. J. C. Reeve, of Dayton; Anæsthetics; the Dangers in the Use of Chloroform as compared with Sulphuric Ether, by Dr. E. H. Hyatt, of Delaware; Tuberculin in the Treatment of Tuberculosis, by Dr. J. T. Whittaker, of Cincinnati; Influenza, by Dr. D. N. Kinsman, of Columbus; Convergent Squint and its Cure, by Dr. C. W. Tangeman, of Cincinnati; Some Facts every Practitioner ought to know about Squint, by Dr. A. R. Baker, of Cleveland; The Treatment of Retention from Hypertrophy of the Prostate, by Dr. N. P. Dandridge, of Cincinnati; Fracture of the Dorsal Vertebræ, by Dr. A. W. Ridenour, of Massillon; Report of Cases, with Comments, by Dr. T. A. Reamy, of Cincinnati; Removal of the Uterine Appendages; Supplemental Report, by Dr. R. B. Hall, of Cincinnati; The Operative Treatment of Uterine Cancer, by Dr. D. Tod Gilliam, of Columbus; High Amputation of the Cervix, by Dr. B. F. Hart, of Marietta; Cases of Extra-uterine Gestation, by Dr. W. D. Hamilton and Dr. C. S. Hamilton, of Columbus; The Value of Draining the Pelvis in Case of Bleeding after Operations, by Dr. M. Stamm, of Fremont; Modern Methods of Treatment for Nose and Throat Diseases accessible to the General Practitioner, by Dr. James E. Nichols, of New York; Tonsillotomy and After-treatment, by Dr. T. V. Fitzpatrick, of Cincinnati; Intubation, by Dr. George Goodhue, of Dayton; Papilloma of the Larynx; Case, by Dr. A. B. Thrasher, of Cincinnati; Exploratory Incision of the Knee Joint, by Dr. B. Merrill Rickets, of Cincinnati; Gonorrhœa in Women, by Dr. C. N. Smith, of Toledo; Home *versus* Hospital Treatment of the Insane, by Dr. A. B. Richardson, of Cincinnati; Hyperemesis Gravidarum, by Dr. W. A. Dickey, of Tiffin; Tests for Albumin, by Dr. W. B. Davis, of Cincinnati; The Limitations of Dermatology, by Dr. Edward Preble, of Cleveland; Spinal Concussion, by Dr. G. W. Crile, of Cleveland; and Salpingitis, with a Report of Two Cases, by Dr. A. B. Walker, of Canton.

The late Dr. Fordyce Barker.—At a meeting of the medical board of Bellevue Hospital held on June 1, 1891, the following resolutions were adopted:

Resolved, That it is with the deepest sentiments of regret that this board has learned of the death of Fordyce Barker, M. D., LL. D., who has been identified for so many years with the medical staff of this hospital as one of its most distinguished and deservedly esteemed members, that his removal at this time is felt by his colleagues as a special loss to this institution;

Resolved, That in Dr. Barker his colleagues have always recognized a man of exceptional endowments, both of mind and of education, which made him the ornament and pride of medicine, which caused him to be an example in these respects to his fellows;

Resolved, That the thirty-five years spent in ministering to the sick in this hospital with the faithfulness to that duty which characterized Dr. Barker is of itself a testimony to the worth of the life which has now closed. But, in addition to this, Dr. Barker used the opportunities of his connection with this hospital to teach others by his experience, by his wide knowledge, by his exceptional skill, and by his great literary gifts, to an extent which has been widely appreciated by the whole medical profession in America and abroad.

[Signed.] George Woolsey, M. D.,
Secretary of the Medical Board.

The Lehigh Valley Medical Association will hold its eleventh annual meeting in Mauch Chunk, Pa., on Thursday, the 25th inst. There will be an address by the retiring president, Dr. Lewis H. Taylor, and Dr. Howard A. Kelly, of Baltimore, will read a paper on Injuries to the Vaginal Outlet.

Columbia College.—The annual commencement exercises, including those of the School of Medicine (the College of Physicians and Surgeons), were held on Wednesday evening, the 10th inst.

Syracuse University.—The annual meeting of the alumni of the School of Medicine was held on Thursday, the 11th inst., the day of the commencement exercises.

The New York State Medical Association.—The seventh annual meeting of the Third District Branch will be held in Binghamton on Thursday, the 18th inst., under the presidency of Dr. J. D. Triff, of Auburn.

The Society of the Alumni of Charity Hospital.—At the last meeting of this society, on Tuesday evening, the 9th inst., Dr. D. Bryson Delavan read a very interesting paper on The Surgical Treatment of Tubercular Laryngitis and Shurly's Treatment of Tuberculosis.

The New York Orthopædic Dispensary and Hospital.—Dr. Irving S. Haynes and Dr. Henry L. Shively have been appointed assistant surgeons to the institution.

The Washington State Medical Society.—The second annual meeting, held in Seattle, on May 6th, 7th, and 8th, was largely attended. The following papers were read and ordered printed with the proceedings of the meeting: The annual address by the president, Dr. C. K. Merriam, of Spokane; Anatomy, by Dr. E. E. Heg, of North Yakima; Physiology, by Dr. H. P. Tuttle, of Tacoma; General Surgery, by Dr. N. F. Essig, of Spokane; Abdominal Surgery, by Dr. E. L. Smith, of Seattle; Surgery of the Brain, by Dr. J. S. Wintermeuth, of Tacoma; Genito-urinary Surgery, by Dr. H. C. Willison, of Port Townsend; a report on Obstetrics and Gynæcology, by Dr. J. J. McKone, of Tacoma; Do Maternal Impressions affect the Fœtus in Utero? by Dr. T. V. Goodspeed, of Seattle; The Treatment of the Insane, by Dr. J. W. Waughop, of Steilacoom; Analgesia of the Insane, by Dr. N. J. Redpath, of Steilacoom; On the Existence of an Intellectual Center, by Dr. G. S. Armstrong, of Olympia; Increased Reflexes and Allied Phenomena, by Dr. C. W. Sharples, of Seattle; and The Importance of Free Nasal Respiration, by Dr. A. B. Kibbe, of Seattle. The following officers were elected for the ensuing year: President, Dr. H. C. Willison, of Port Townsend; vice-presidents, Dr. G. W. Libby, of Spokane, and Dr. H. P. Tuttle, of Tacoma; secretary, Dr. Elmer E. Heg, of North Yakima; treasurer, Dr. James B. Eagleston, of Seattle. The next meeting will be held in North Yakima, beginning on the second Wednesday in May, 1892, and continuing for three days.

The University of Pennsylvania.—It is announced that important additions were made to the faculty by the board of trustees at the meeting on Tuesday last. Dr. George A. Piersol was chosen professor of anatomy, to succeed the late Professor Leidy; Dr. Harrison Allen, professor of comparative anatomy, to succeed to Dr. Leidy's chair in the Biological School, and Dr. John B. Deaver, assistant professor of applied anatomy. Dr. Edward Martin was elected to the chair of special surgery. In the Veterinary Department Dr. S. S. J. Harger was elected professor of veterinary anatomy, and Dr. Leonard Pearson, who is now pursuing special studies at the Royal Veterinary School of Berlin, assistant professor of veterinary medicine.

Army Intelligence.—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from May 31 to June 6, 1891:*

Hoff, Van R., Captain and Assistant Surgeon, is, by direction of the Secretary of War, relieved from duty as a member of the Board of Medical Officers, to which he was assigned by Par. 6, S. O. 78, April 7, 1891, from this office, and will, upon the completion of the duties assigned him by Par. 6, S. O. 110, May 14, 1891, from this office, return to his proper station, Fort Riley, Kansas. Par. 11, S. O. 126, A. G. O., June 3, 1891.

By direction of the Secretary of War, Par. 1, S. O. 74, May 22, 1891, Department of the Columbia, transferring Hall, John D., Major and Surgeon, from Fort Canby, Washington, to Fort Sherman, Idaho, is confirmed. Par. 4, S. O. 126, A. G. O., June 3, 1891.

By direction of the Secretary of War, the extension of leave of absence on account of sickness granted Birmingham, Henry P., Captain and Assistant Surgeon, in S. O. 108, May 12, 1891, from this office, is further extended to June 21, 1891, on surgeon's certificate of disability. Par. 6, S. O. 125, A. G. O., June 2, 1891.

Huntington, David L., Major and Surgeon, is granted, with the approval of the Secretary of War, leave of absence for three months, to take effect on or about June 15, 1891. Par. 2, S. O. 124, A. G. O., June 1, 1891.

Kean, Jefferson R., Captain and Assistant Surgeon, is granted leave of absence for one month, to take effect after the return of Major Robert H. White, Surgeon, to duty at Fort Myer, Virginia. Par. 1, S. O. 123, A. G. O., May 29, 1891.

Carter, Edward C., Captain and Assistant Surgeon, will proceed without delay to Fort Canby, Washington, and report to the commanding officer for temporary duty, relieving Major John D. Hall, Surgeon, who will proceed to Fort Sherman for duty as Post Surgeon. Par. 1, S. O. 74, Department of the Columbia, May 22, 1891.

Kean, Jefferson R., Captain and Assistant Surgeon, is, by direction of the Secretary of War, assigned to temporary duty at Fort Myer, Virginia, until the return of Major Robert H. White, Surgeon, to duty at that post. Par. 8, S. O. 122, A. G. O., May 28, 1891.

Waters, William E., Major and Surgeon, is granted leave of absence for twenty days. Par. 6, S. O. 122, A. G. O., May 28, 1891.

Naval Intelligence.—*Official List of Changes in the Medical Corps of the United States Navy for the week ending June 6, 1891:*

Gravatt, C. U., Surgeon. Detached from the Naval Hospital, Yokohama, Japan, and ordered home.

Rogers, Franklin, Surgeon. Detached from special duty at Norfolk, Va., and ordered to the Yokohama Hospital.

Marine-Hospital Service.—*Official List of the Changes of Stations and Duties of Medical Officers of the United States Marine-Hospital Service for the four weeks ending June 6, 1891:*

Vansant, John, Surgeon. Granted leave of absence for seven days. May 22, 1891.

Irwin, Fairfax, Surgeon. Granted leave of absence for twenty-one days. May 11, 1891.

Guitéras, G. M., Assistant Surgeon. Relieved from special duty at New York and ordered to San Francisco, Cal. May 11, 1891.

Groenevelt, J. F., Assistant Surgeon. Relieved from duty at New York Marine Hospital, and ordered to Gulf Quarantine. May 22, 1891.

Young, G. B., Assistant Surgeon. Granted leave of absence for thirty days. May 11, 1891.

Fessenden, C. S. D., Surgeon. Granted leave of absence for thirty days. June 6, 1891.

Irwin, Fairfax, Surgeon. Leave of absence extended seven days. June 4, 1891.

Mead, F. W., Surgeon. When relieved at Chicago, Ill., to proceed to Washington, D. C., and report to the Supervising Surgeon-General for duty. May 29, 1891.

Magruder, G. M., Passed Assistant Surgeon. Granted leave of ab- for five days. June 1, 1891.

Young, G. B., Assistant Surgeon. Leave of absence extended fifteen days on account of sickness. June 6, 1881.

Promotions.

Perry, T. B., Passed Assistant Surgeon. Commissioned as such by the President. May 23, 1891.

Woodward, R. M., Passed Assistant Surgeon. Commissioned as such by the President. May 23, 1891.

Society Meetings for the Coming Week:

Monday, *June 15th:* New Hampshire Medical Society (centennial, first day—Concord); New York County Medical Association; Hartford, Conn., Medical Society; Chicago Medical Society.

Tuesday, *June 16th:* Colorado State Medical Society (first day—Denver); New Hampshire Medical Society (second day); Ogdensburgh Medical Association; Medical Societies of the Counties of Kings and Westchester (annual), N. Y.; Baltimore Medical Association.

Wednesday, *June 17th:* Ohio State Medical Society (Sandusky—first day); Colorado State Medical Society (second day); Northwestern Medical and Surgical Society of New York (private); Harlem Medical Association of the City of New York; Medico-legal Society; Medical Societies of the Counties of Allegany (annual) and Tompkins (annual—Ithaca), N. Y.; New Jersey Academy of Medicine (Newark); Philadelphia County Medical Society.

Thursday, *June 18th:* Minnesota State Medical Society (first day—Minneapolis); Ohio State Medical Society (second day); Brooklyn Surgical Society; New Bedford, Mass., Society for Medical Improvement (private).

Friday, *June 19th:* Minnesota State Medical Society (second day); Ohio State Medical Society (third day); Baltimore Clinical Society; Chicago Gynæcological Society.

Saturday, *June 20th:* Minnesota State Medical Society (third day); Clinical Society of the New York Post-graduate Medical School and Hospital.

Letters to the Editor.

AN OPERATION FOR REACHING THE ROOT OF THE LUNGS FROM BEHIND.

14 Stuyvesant Avenue, Brooklyn, *June 6, 1891.*

To the Editor of the New York Medical Journal:

Sir: The case of the late Rev. Dr. Bothwell, dead from the entrance of a foreign body into the air-passages, is yet fresh, with melancholy interest, in the minds of all medical men in this city.

A man in vigorous health, of magnificent physique, with organs entirely sound, through an accident inhales a cork that lodges in the left bronchus. All means that scientific skill could command were used and failed, and the best surgeons in the city stood by, foiled in their efforts, and saw him slowly pass away, unable to relieve him.

Is there, then, no means by which such a case can be relieved when, as in this case, the foreign body has lodged so far below the bifurcation of the trachea, or so firmly, that it can not be extracted by means of instruments introduced through a tracheotomy wound?

The thought of cutting through the chest wall and so reaching the root of the lung naturally suggests itself. The anatomical relations of the primary bronchi anteriorly are such that it is anatomically impossible to reach them from the front of the chest. This is not, however, the case if we try to reach the primary bronchi from the back. The roots of the lungs are in relation behind, on the left side with the aorta, and on both sides with the pneumogastric nerves and pulmonary plexus. If the arm is thrown upward and forward, with the forearm across the front of the head, enough room can be had, between the border of the scapula and the spinal column, to cut down upon the ribs, resect two or three of them, and, by avoiding the aorta on the left and separating the nerves, to reach the bronchi.

In my judgment, the operation is anatomically possible and no more difficult of performance than ligation of the innominate or the subclavian on the left side.

I am conducting some experiments on the cadaver, so as to find the best operative way of reaching the bronchi from behind, and will report them at a future date.

In writing this communication I only want to call the attention of others to a subject which bears study and investigation and to an operation that I believe to be original, and may prove of some use in cases parallel to that of the late Rev. Dr. Bothwell. M. Figueira, M. D.,

Visiting Physician to St. Catherine's Hospital.

SHALL PHYSICIANS DISPENSE THEIR OWN MEDICINES?

Hoboken, N. J., *May 30, 1891.*

To the Editor of the New York Medical Journal:

Sir: While I know that by starting to write on the question of self-dispensing I may excite controversy, and possibly personal enmity, I can not withstand the temptation to argue a question about which so much is written in pharmaceutical journals, but about which I can find hardly anything at all in medical literature.

If the druggist would content himself with the compounding of medicines according to physicians' prescriptions, it would be useless to argue this question, as it would be more handy and time-saving for the physician to prescribe than to dispense.

But it is different; not only does the druggist dispense the doctors' prescriptions, but he sells patent medicines and does counter-prescribing.

When the young doctor opens his office for the first time, even before he puts out his sign, the different druggists in the neighborhood will send to him nicely printed prescription pads, with his name and address on; but they will not forget to print on the back of the blank: "Have this prescription put up at C. D. & Co.'s Pharmacy."

The young physician sees in this an attention of the druggist, and of course fails not to call on him; and should by chance this young doctor get a patient, his first prescription will be sent to this and no other pharmacist.

It will not take long before the doctor will get one patient who will not fail to tell that he was recommended to the doctor by such and such a druggist.

Nearly every druggist in the neighborhood will have done this during the first six weeks of the new doctor's practice, and so in a short time the doctor has come in contact with every druggist in the neighborhood.

The doctor will faithfully send all his prescriptions to the druggist, while the druggist, if he can not sell to one of his customers some patent medicine or some compound which he has been making for the last twenty years, when a physician had given him the prescription—or if he can not make up something himself—when he can not do any of these things, then he will send the patient to the doctor.

The matter will go on in this way till another doctor settles in the vicinity. As the druggist already has the good will of Dr. Smith, he will now try to obtain the good will of Dr. Meyer. Prescription pads are sent to Dr. Meyer, the usual visit is made and returned, and a few patients are sent to Dr. Meyer, even if they have to be taken from Dr. Smith, so as to show to Dr. Meyer that he has the help of the druggist. And so goes on the work *ad infinitum.*

By and by Dr. Smith, Dr. Meyer, and all the other doctors in the neighborhood will notice that their prescriptions not only get repeated for the same patient, but even for people that they never saw. They will find that even the words *non repete,* written at the top of the prescription, will not remedy the evil. All of us have had the experience of treating a patient and, after giving him a prescription, earning a small fee. But, instead of our treating this patient till he is cured, as we expected, the patient will go to the druggist and will have the prescription repeated, and repeated till he is cured or till he thinks the prescription will not help him any more, and even then he will be careful to preserve the bottle with the number of the prescription on the label, so that he may have the prescription renewed should he feel sick again.

If we happen to treat a case of gonorrhœa or a case of diarrhœa, how often will it happen that the bottle is loaned from one person to another, so that Jim can cure his clap with the medicine that cured the "dose" of Billy, or that this fond mother can cure her baby with the powders that helped the other baby so well!

Why is it that people take so much patent medicine? Do they not see their doctor in friendly conversation with the druggist that sells the patent medicines? Can there be anything wrong in medicines that are sold in a store whereto the doctor sends his patients? Does anybody dare say that patent medicines would be held in such esteem if they were not sold in drug-stores?

Certainly, if Ayer's sarsaparilla—may Mr. Ayer excuse the example—is sold in the drug-store at 82 cents a bottle, while it is sold in the dry-goods store, next door, for only 67 cents, the people will go to the dry-goods store and buy it. But how many persons would buy Ayer's sarsaparilla at all, if it was banished from the drug-stores?

Of course, many people will go in the drug-store and ask the druggist for advice, because they know that counter-prescribing is a practice, but is it right for the druggist to do counter-prescribing?

The question if a patient has a right to have a prescription repeated could be easily settled by a properly fought test-case; and the druggist would no more think of dispensing twice on the same prescription than the bank clerk would twice pay money on the same check.

As I said before, if the druggist would do no more nor less than dispense our prescriptions, we doctors could and would be satisfied, but as it is now, when the druggist will not only sell and recommend patent medicines, distribute almanacs recommending the use of the same, sell his own rheumatic and gout cure, his own cough medicine, prescription No. 77,777, which will surely cure hæmorrhoids, and give all sorts of syrups and other things over the counter, not only when people ask for them, but also when they ask what is good for this or that; when they will stanch bleeding wounds, and use the stethoscope, and do other things utterly outside of their domain; when they also will make remarks about prescriptions and treatment; when they will persuade patients to change doctors, sometimes by telling them so outright, sometimes by remarking that it is wonderful that just at present so many patients die on that doctor's hands, or by making some other remark of this kind. And then the question is laid before us: Shall doctors dispense their own medicines?

Of course, some of the older gentlemen in the profession will say that they have never encountered some of the things I have mentioned, and to them let me say that they have found most of them, that they have been lucky if they have not found all of them, and that it is likely that in the years of their practice they have forgotten how hard they had to fight to win the battle.

And let me ask the younger gentlemen of the profession, especially those that have to fight from day to day to make their living, let me ask these gentlemen if they have not felt all the things I have mentioned? A. W. Herzog, M. D.

Proceedings of Societies.

NEW YORK ACADEMY OF MEDICINE.

Meeting of May 21, 1891.

The President, Dr. Alfred L. Loomis, in the Chair.

The Inefficiency of Radical Treatment of the Initial Syphilitic Lesion.—Dr. R. W. Taylor, in a paper on this subject, after exhaustively reviewing the work of writers and comparing the opinions expressed upon the vexed question as to whether early radical removal of the initial lesion should or should not be resorted to, in the hope of limiting the specific action of the poison to its area of implantation, said he had now learned why efforts at radical treatment had hitherto failed. As the basis of a series of carefully instituted observations, in which the microscopical work had been undertaken by Dr. Van Gieson, he had supplied, as specimens, portions of tissue taken from the neighborhood of various initial lesions of verified specific character, and of only a few days' development. The results of the investigations had gone to show conclusively, as would be demonstrated by the enlarged microscopic drawings which he exhibited, that, though the tissue around the chancre appeared perfectly normal, there was already widely disseminated involvement of the subcutaneous structure. This consisted in changes in the circumvascular spaces by infiltration with small round cells, all the smaller arteries and veins over a considerable area beyond the initial lesion being thus involved. There was also in progress a process of abnormal proliferation of the endothelial cells of the vessels. From this it could be deduced beyond dispute that the infective processes were, from the period of implantation of the virus, of so rapid a character as to render utterly futile any attempts at aborting the disease by cautery or excision of the initial lesion, however early it might be observed.

Dr. A. Jacobi said that it must be taken for granted that Dr. Taylor had adduced such evidence as proved his theory beyond argument. It was clear, then, that the secondary stage of syphilis began much sooner than was supposed. Accepting, then, the results of the investigations as scientifically correct—and this they undoubtedly were—the question of the early use of mercurials would seem of vital import. While he knew it was contrary to the practice of many others to begin the use of mercury in the initial stages, it had been his custom so to employ it, and with good results. Any doubts he might have had as to the propriety of this course would be now set at rest. He would like to know the author's views in this regard.

Dr. Taylor said that, while as yet he had not given the point at issue consideration, he failed to see that the results of the investigation suggested deviation from his routine method of waiting until the constitutional developments had declared themselves before the institution of the indicated treatment.

Deep Medication in the Treatment of Posterior Urethral Catarrh.—Dr. Edward L. Keyes read a paper on this subject. Posterior urethritis, he said, had now become very generally recognized by specialists and its management much simplified. Still, among the profession at large there existed much ignorance and misconception on the subject. As a matter of fact, the treatment was easy and did not call for expert skill in the use of instruments. The author then elaborated carefully the salient points in the various conditions of the male urethra likely to give rise to intractable discharges, especially those morbid secretions having their origin in lesions situated in the posterior urethra, taking the ground that these latter were constantly overlooked by even the best men, and that patients suffering therefrom would wander from physician to physician without the true cause of their trouble being recognized, or at any rate without proper treatment for their condition being instituted.

Dr. Keyes detected posterior urethritis as follows: He "milked" the urethra, by pressure, firmly with the finger from the perinæum forward and then caused the patient to urinate into two separate conical glasses. If there was posterior urethritis of mild grade, the first urinary gush would contain free pus in a quantity disproportionately great when compared with what had been milked out at the meatus by digital pressure. If the grade of posterior urethritis was high, the second urinary flow would also contain free pus. If the latter had come from a prostatic abscess or a suppurating seminal vesicle, this might be demonstrated by making the patient urinate in three parts—one to wash the prostatic sinus, a second gush to show relatively what proportion of pus had flowed backward into the bladder, and here milking the prostate or the suspected vesicle by a finger in the rectum; then a third urinary gush to show what, if any, excess of pus or prostatic or seminal matter had been added to the urine by the rectal manipulation, a point to be settled by the microscope. Sources of pus from the bladder or from the kidney were omitted from consideration in the paper.

For the treatment of the condition there were certain substances which might be injected into the deep urethra when once the disease was recognized, which would have a direct local effect without subjecting the patient to the danger of cystitis or to any of the consequences of ordinary injections or the use of sounds, and would save him from the necessities of treatment by the knife. The instrument used by the speaker was the Keyes syringe, and with it twenty minims could be thrown in so that the injection would flow through the prostate and into the bladder without any of the fluid returning. He was in the habit of using four substances—sulphate of thalline, glycerole of tannin, sulphate of copper, and nitrate of silver. The thalline was bland and unirritating. He made use of a solution of three to twelve per cent. in water. Of the sulphate of copper he used a ten-per-cent. solution in glycerin. The glycerole of tannin was too thick to use pure, and required from twenty-five to seventy-five parts of water to thin it. The nitrate of silver he used in a ten-per-cent. solution, though rarely employing it, especially in catarrhal cases. By the use of these four solutions the speaker emphatically stated that the greatest advantage might be obtained in cases which were properly diagnosticated as posterior urethritis. Without these remedies he should be tempted to give up the treatment of this affection, and, when they failed, he believed the mistake in diagnosis was obvious.

The speakers who discussed Dr. Keyes's paper in the main approved his methods of diagnosticating the location of the morbid process, differing with him only as to the therapeutical agents and instruments according to individual experience.

SECTION IN GENERAL MEDICINE.

Meeting of May 19, 1891.

Dr. Francis Delafield in the Chair.

Pulmonary Syphilis.—Dr. T. E. Satterthwaite, in a paper on this subject, said that the subject of syphilitic lesions of the lungs had been too much neglected by the writers of text-books. It was possible that the majority of general practitioners would even affirm that they had never seen such a thing as lung syphilis. He was willing to admit that there was much reason for such conservative stand. The lesion was very difficult to demonstrate post mortem, and especially to distinguish from tuberculosis. Then again syphilologists had been singularly reticent upon the existence of lung syphilis. He took the ground, however, that, though often found co-existing with true tuberculosis, pulmonary syphilis nevertheless must undoubtedly be given a place as a distinct manifestation of syphilitic infection. Clinically it was probably often mistaken for bronchopneumonia, bronchitis, or tuberculosis. With careful exclusion of these, there should be, in making a diagnosis, a history of constitutional syphilis. While it had been urged that the specific remedies for syphilis were also potent in pulmonary tuberculosis, he did not believe that any such marked results would obtain as could be accomplished by the exhibition of these remedies in pulmonary lesions of syphilitic origin.

Dr. R. W. Taylor said that he had on a former occasion when this subject was presented gone away in a condition of uncertainty, but determined to examine all cases offering for observation which might throw light upon the question. A writer in a recent issue of *L'Union médicale* had taken the same stand as the author of the paper, believing that while there was undoubtedly a syphilitic disease of the lung, it was difficult to distinguish by the eye between it and a tuberculous process, while the two might go together. This writer had concluded that the syphilitic lesion might exist in two forms, giving rise to local structural changes of either a fibroid or gummatous character. The speaker had gone over his own records and had jotted down four cases which seemed to have a direct bearing upon the discussion. He had arrived at the conclusion that syphilis predisposed to tuberculosis, and also that certain cases presented clinical symptoms which he believed due to morbid changes in the lungs resulting direct from syphilis. He then detailed the following histories:

Case I.—A young man, twenty-five years of age, first seen in August, 1890, was thin, pallid, and wan, and gave a history of having been infected with syphilis in June of the same year. At the time of examination the patient had double syphilitic hydroarthritis of the knee joints. The author learned that he had been treated with mercury and bore it badly. In September he had inflammation of the left ankle joint, and complained of cough and weakness, night-sweats, and great dyspnœa. In spite of the best care, he became rapidly worse, and in November there was evidence of diffuse infiltration in both lungs. He failed speedily and died early in December.

Case II.—A man, thirty-two years of age, contracted syphilis early in 1888. At that time he was in perfect health; following the infection he had general exanthemata and mucous lesions. Treatment was kept up for six months. He came under the author's care in May, 1890, rather more than two years after infection. At this time he was pale and in a general run-down condition, and complained of a slight hacking cough. There was pain on breathing over a patch having an area of three square inches on his side over the middle of the left lobe of the left lung. There was slight expectoration in the morning. Over the morbid area there was some dullness, and rough breathing could be heard. There was no elevation of temperature. He was put upon mixed treatment and syrup of iodide of iron. Within a month his pain ceased, he coughed less, and grew stronger. In July he was in perfect health, with no evidence of the lung trouble.

Case III.—A young man, twenty-two years of age, had had syphilis for eighteen months, and had had no treatment for a year after infection. In May, 1890, he first noticed shortness of breath and a slight cough. The sputum was not very copious, but a little fœtid and mucoid, and occasionally streaked with blood. There was dullness over the left lung, at the middle of the lower lobe, of about the size of a lemon. On auscultation, large and small râles were heard. He was then pale and sallow and very weak. Under "mixed treatment" and iodide of iron he was apparently cured by July of the same year. Promptly after the beginning of the treatment he began to feel better, and quite rapidly his nutrition became improved. And, as before said, in July no trace of the lung complication could be discovered.

Case IV.—A woman, thirty-eight years of age, a blonde of poor fiber, became infected with syphilis in October, 1886, and came for treatment in October, 1887. She then gave a history of mucous patches in the mouth, papular syphilides, rheumatism, and great falling away in flesh and strength. She had had irregular treatment, and then only remained in the hospital for a month. In July, 1887, she came back with diffuse gummatous infiltration into ten fingers and over the body. She was treated, and as soon as her tumors had healed she again went out. In November of the same year she came back with the story that for a month previously she had had a slight cough, was a little short of breath upon exertion, and noticed that she was more readily fatigued than before. Following this condition she had had a hæmorrhage, which had lasted about an hour; these were repeated on several other occasions, very much reducing the patient's strength. On examination, the upper lobe of the left lung, extending three inches down from the clavicle and all the way across the chest, was markedly dull in resonance. Auscultation elicited a whistling noise, with moist râles. Everywhere else the lungs were normal. The patient was then put on extra diet and the "mixed treatment." The chest was rubbed every day with twenty grains of strong mercurial ointment. She was sent home in January, 1888, in fair general condition and with no appreciable lung trouble.

Dr. W. H. Welch thought that the subject of syphilitic lesions in the lung was certainly most interesting, but was in a confusing state, and was not likely to be thoroughly cleared up before we possessed, in the detection of the specific germ of syphilis, as positive a means of recognition of syphilitic lesions as we had in the tubercle bacillus for tuberculosis. Unquestionably a large proportion of the cases of pulmonary syphilis reported in the adult had been cases of tuberculosis. Some writers seemed to have supposed that by demonstrating the existence of syphilis in the patient they had brought sufficient evidence that the coincident pulmonary disease was of a syphilitic nature. Neither the existence of syphilitic infection nor improvement or cure of the pulmonary affection by antisyphilitic treatment seemed to the speaker satisfactory proof that the alterations in the lung were syphilitic. In the present unsettled state of the question, a case reported clinically without any post-mortem examination was valueless as to the establishment of specific pulmonary syphilitic lesions. It was curious to find that, even in recent years, cases had been reported as syphilis of the lung on the basis of the clinical history, even without examination of the sputum for tubercle bacilli, as well as on the basis of post-mortem examination without search for tubercle bacilli. The syphilitic alterations in the lungs in cases of congenital syphilis, chiefly of still-born infants, had long been recognized, and their characters were understood. As regarded acquired syphilis, there were two forms of pulmonary disease which the speaker had met with and which he thought were syphilitic: first, a form of chronic interstitial pneumonia, beginning usually at the root of the lung, extending along the bronchi and blood-vessels; and second, the formation of genuine gummata. As to the latter, it had been shown that they might develop as circumscribed syphilitic pneumonias. Although the lesions mentioned were, of course, accompanied with destruction of the pulmonary parenchyma, the speaker knew nothing of the occurrence from the genuine syphilitic lesion of such destruction of tissue and formation of cavities as we were accustomed to call phthisis, and in this sense there did not seem to him to have been as yet brought forward sufficient evidence to form the existence of such a disease as syphilitic phthisis.

The opinions expressed by the remaining speakers on the question went to confirm the position taken by the author of the paper that syphilitic invasion of the lung, though difficult of demonstration in the absence of a syphilitic germ yet to be isolated, must nevertheless be regarded as a clinical and pathological entity.

SECTION IN GENERAL SURGERY.

Meeting of May 11, 1891.

Dr. William T. Bull in the Chair.

Sarcoma of the Finger.—Dr. Samuel Lloyd exhibited a child four years of age who, seventeen months ago, fell through a fire-escape of the first story into the area landing, alighting on her hands. She had apparently suffered no injury. There was no family history of tuberculosis, syphilis, or tumor. A month or two after the fall an abscess appeared on the middle finger of the right hand. This was opened and soon healed. Six months subsequently a small growth was noticed on the proximal phalanx of the index finger of the left hand. At first the parents thought this would develop into an abscess like the first. It continued to grow, however, and seven months ago the child had come under the speaker's observation. At this time the whole phalanx was involved in a firm growth, like bone. The skin was normal and the growth did not extend across the joint at either extremity. Her general condition was good, with very little pain apparently, no pulsation in the tumor, and no fluctuation. The diagnosis was tubercular or syphilitic osteitis, although both parents absolutely denied any infection. To give the child the benefit of the doubt, she was put upon antisyphilitic treatment, which was continued for six weeks. Instead of the growth being arrested, it had continued to increase rapidly, and a month later—six months ago—a small nodule was discovered growing from the inner and upper part of the first metacarpal bone of the right hand. Both tumors continued to grow rapidly in spite of the internal treatment combined with rest and pressure. Three weeks afterward a third growth appeared at the upper portion of the fifth metacarpal bone. In order to make a careful examination, the child was etherized on March 6th, when egg-shell crackling was very marked over the phalangeal and the oldest portion of the first metacarpal tumor. It was not made out in the tumor of the fifth metacarpal. An incision was now made down upon all three tumors, which were firm and bony, except in the case of the phalanx. The fine bony shells were found filled with a firm suspicious mass. Sections were removed for microscopical examination. While he was waiting for the result of this examination another growth was discovered at the upper end of the ulna of the left side. In consequence of the suspicion in regard to the tumor, and without waiting for confirmation of the diagnosis, the alternatives of treatment were presented to the parents, but they decided against any operative interference. Subcutaneous injections of a 1-to-500 pyoctanin solution were therefore begun, at first using only five minims in each tumor, but gradually increasing.

About this time pain was more marked, and the child lost flesh and color. Since the beginning of the injections of pyoctanin there had been an arrest of the growths apparently, and there had been no further tumors developed.

The pathologist had reported the growths as sarcomatous. In the event of failure by the treatment with pyoctanin, the consent of the parents was obtained for a trial of the *Streptococcus erysipelatos*.

Gunshot Wounds.—Dr. T. H. Manly reported four cases of penetrating gunshot wounds involving the cranial, pleural, and peritoneal cavities. Three of these cases had been seen by him in one week, a year elapsing between these and the remaining case.

Case I.—A young woman, eighteen years old, was shot by a 32-caliber pistol, the ball entering above the zygomatic process, two inches posterior to the angle of the right eye, and crushing through the squamous portion of the temporal bone. It was found lying on its long axis, imbedded in the skull and depressing the dura mater, but apparently not otherwise injuring it. The patient bore the operation of extraction without constitutional reaction. Removal of the dressings on the third day showed everything to be in perfect condition and aseptic. On the afternoon of this day she had a chill, followed by rise of temperature, with rapidly developing symptoms ending in coma and death at seven o'clock. The post-mortem examination showed the dura mater to be slightly ulcerated at a point where the bullet had lodged, and there was a small area of cerebral softening, but no general meningitis. Death had possibly resulted from secondary shock.

Case II.—A young woman shot herself two inches below and to the outer side of the left nipple, the ball passing directly through the lung and thorax, through the scapula, an inch and a half from its inferior angle, lodging immediately under the integument, from which it was removed. When admitted to the hospital, the patient's heart was found to the right of the median line, the left pleural cavity being distended with blood or sanguineous effusion. There was not much shock or dyspnœa, and the outlook was good until the fifth day, when, following a chill, the temperature rose to 104°. It was evident that septic invasion had taken place, involving the air-passages and wound of penetration. The septic contents of the pleural cavity were removed through a suitable incision, and the cavity treated by antiseptic solutions and drainage. Improvement was rapid and cure was complete in four weeks.

Case III.—A young man, immediately after eating his dinner, shot himself with a 38-caliber Smith & Wesson pistol, aiming directly at his heart. When brought to the hospital he was suffering from profound collapse, hæmatemesis, and hæmoptysis. On the assumption that there existed internal hæmorrhage from the stomach, laparotomy was done. The bullet was found to have perforated the pleura, the lower lobe of the left lung anteriorly, and the left lobe of the liver, passing through the anterior wall of the stomach near the cardiac opening. The peritoneal cavity was found perfectly free from any escape of blood or liquid from the stomach; but, on carrying the finger upward and separating the anterior surface of the stomach from the posterior wall of the left lobe of the liver, the contents of the stomach, mixed with blood, were with each inspiration forced through the perforation into the peritoneal cavity. The perforation was so high up that it was only sutured with great difficulty. Careful toilet of the cavity was made and the wound dressed. From this time all vomiting of blood ceased, but there were two large bloody passages through the night and following morning. There was great thirst, but there were no symptoms of peritonitis. On the fifth day pleurisy with effusion developed, with symptoms of septic invasion of the pulmonary areas involved, and death occurred on the eighth day. The post-mortem showed there was no peritonitis, and that there was perfect union at the point of anterior perforation of the stomach, but upon testing this organ it was found that another perforation existed upon the posterior wall; but even this was nearly closed.

Case IV.—This was a pistol-shot wound in a man forty-two years old, the bullet having entered about an inch and a half to the left of and two inches below the left nipple, passing backward and downward, penetrating the left lung and shattering the shaft of the tenth rib, and forming a subcutaneous hæmatoma, of the size of a billiard-ball, from which it was subsequently extracted. In this case, on the fifth day, chill and rise of temperature had occurred owing to septic influences. An operation was done, which relieved the patient of the bullet and the fragments of fractured rib and large blood clots and purulent accumulation from the pleural cavity. After this, recovery was rapid.

Dr. Manly emphasized the fact that in all penetrating wounds of the lung the prevention of septic infection was a physical impossibility; setting aside the external wound, infection would take place through the bronchial tubes. Hence the importance of securing perfect drainage through the aperture of entrance.

Drainage in Abdominal Surgery.—Dr. D. P. Allen, of Cleveland, Ohio, in a paper with this title, considered the subject under three heads. The first proposition was as to whether drainage of the abdomen after operation was ever desirable. He presumed that in these and all kindred operations the use of the drainage-tube had considerably diminished. He very rarely used it, seeking, in amputation of the breast or limbs, to stop all oozing before closing the wound, to keep it strongly pressed together during the insertion of the sutures and the application of the dressings, and by the pressure of the dressings so to hold the surfaces in apposition as to obviate the collection of secretion. By this method the rule was to secure union by first intention without the drainage-tube. The same conditions existed to a degree in the abdominal cavity, and that its surfaces came in contact was, he thought, evidenced by the fact that in attempting to insert the hand into the abdominal cavity, especially if the anæsthesia was not complete, the omentum and the intestines inserted themselves between and separated the fingers in spite of the operator's efforts to prevent this. Notwithstanding, however, the close apposition which existed between the abdominal viscera on account of the intra-abdominal pressure produced by the tonicity of the abdominal wall and the distention of the intestines by gas, accumulations of fluid took place in the abdominal cavity. A common instance of this was ascites. Doubtless, after laparotomy, fluids might collect in the abdominal cavity in spite of the apposition of surfaces and the existing pressure, but he strongly suspected that this occurred chiefly where there was bleeding from vessels of some size or where the pre-existing condition of the peritonæum was such as favored the pouring out of fluid. His observation would lead him to doubt whether the collection of fluid was, as a rule, great under other circumstances, unless sepsis was present or strong antiseptic solutions were employed. While on the one hand it must be acknowledged that by apposition and pressure we could not escape the collection of fluids in the abdominal cavity to the degree which might be done in wounds more subject to pressure, on the other hand the lining membrane of the abdomen was especially able by its power of absorbing fluids to care for and remove accumulating secretions. If, then, there were certain forces tending to restrict the accumulation of fluid in the abdominal cavity and also a well-marked force for removing such accumulations when they occurred, the question arose as to what fluids might safely be left in the abdominal cavity to be cared for by natural means and what ones must be artificially removed. Those fluids which could be safely left to care for themselves were (1) serous oozing from wounded surfaces and (2) small amounts of blood collecting from the same sources. Those which it would be dangerous to leave were (1) large amounts of blood and (2) septic or infectious material. That collections of serum were readily absorbed from the abdominal cavity was unquestionable. He believed the same to be true of small collections of blood. Beyond question, however, the leaving of large amounts of blood to become organized was fraught with danger, since blood-clots seemed particularly susceptible to infection and decomposition, and patients weakened by the loss of blood had less power to resist a slight degree of infection, which they might do under more favorable circumstances.

The question now arose, Had we means of drainage efficient in removing fluids which might collect in the abdominal cavity? He had been surprised in many cases where he had used the drainage-tube to find how small an amount of fluid escaped from it. Doubtless there were instances in which the amount of fluid drawn away from the abdomen by drainage was very great. Though he could not demonstrate it to be a fact, he surmised that cases in which large amounts of serum were removed by the drainage-tube were those in which there was a tendency of this fluid to accumulate before the operation, and that the fluid was not the product of divided adhesions.

Evidently it would be impossible to discuss all conditions which might arise. We might, however, discuss those which were most common. Perhaps this could be done most rapidly by citing briefly, in connection with some of these conditions, a few cases. As to the cases in which drainage should be employed: The abdominal cavity should be drained (1) in septic peritonitis. Wherever found, septic matter should be removed, and this was nowhere truer than in the abdominal cavity. It should be effected in any direction requisite for its perfection, whether ventral, vaginal, or lumbar. (2) In gunshot wounds drainage was rarely indicated. In the few cases he had seen he had been surprised at the small amount of extravasated fæcal material, even when the lumen of the gut was largely destroyed. All that could be accomplished would be gained by thoroughly cleansing the abdominal cavity without drainage, for it would be difficult by any arrangement of drain, unless it was the tampon of Mikulicz, to procure drainage in these cases. (3) In tubercular peritonitis, when the fluid produced by the tubercular process was contained in a cavity occupying the pelvis and the lower part of the abdomen, and was shut off from the upper portion of the abdomen by adhesions among the intestines, he could not imagine that such cavities could be successfully treated in any other method than by drainage. (4) Operations for perityphlitis. Where pus was present and where adhesive inflammations had prevented its invasion of the general peritoneal cavity, drainage was of course in place. Where the infection had generalized itself over the abdomen, the treatment must be the same as for septic peritonitis from other causes, and thorough cleansing and drainage were indicated. (5) Intestinal obstruction, whether the result of volvulous adhesions or constricting bands, was in early stages often accompanied by the effusion of serum. Afterward this disappeared, became absorbed, and there remained plastic lymph, gluing the intestines together. If operation was done early in these cases, the serum was, he thought, not septic, and did not require drainage. Although he had not seen enough of these cases to reach a definite conclusion, the impression had grown upon him that in an early stage, when free fluid was present in the abdominal cavity, they were favorable for operation, and that this fluid was not septic and did not need to be drained away. Subsequently, when the fluid had disappeared, there was a deposit of plastic lymph with adhesions and infection, rendering operation more dangerous and drainage important. (6) Hæmorrhage. When this occurred in considerable quantities and could not be controlled, it was doubtless best that it should be removed. It was, however, better to take good care that much hæmorrhage did not occur, than to seek to escape its dangers by drainage. (7) Extra-uterine pregnancy. In operations for this condition there were cases in which it was impossible to control bleeding, and in which drainage was important. If the operation was upon the tube which had just ruptured, and the tube and blood could be thoroughly removed, drainage might or might not be employed, according to the completeness of the operation. But there were many cases in which the products of the extra-uterine gestation could not be completely removed or in which the removal of the adherent placenta would be unwise, in which drainage must be employed. (8) Adhesions. It was the speaker's belief that divided adhesions did not furnish in themselves cause for drainage. Uncontrolled hæmorrhage was, as had been stated, a cause for drainage, but not the adhesions in themselves. In some cases of ovarian tumors of enormous size, where the adhesions had been universal and dense, and where their division had been accompanied by extensive hæmorrhage, he had tied all bleeding points, at times applying cloths wrung out with hot water, well up to the base of the mesentery in the lumbar region, and had closed the abdomen without drainage, and the patients had made a complete and uninterrupted recovery. (9) The escape of cyst contents into the abdominal cavity. When this occurred and the material was infectious, no precaution for its removal could be too great, and, in addition to washing, drainage was doubtless in place. In other cysts he did not believe this necessity existed. The contents of simple ovarian cysts seemed to be innoxious. He had had a large amount of fluid from a cyst of the pancreas escape into the abdomen, which had been removed by washing without drainage, in which recovery had resulted. (10) Pyosalpinx. Opinions differed more with reference to the drainage-tube in this than in any other disease. If pus-tubes could be removed without rupture and the uterine extremity of the tube be disinfected or seared with the actual cautery, drainage was unnecessary. If, on the other hand, pus escaped or we were uncertain as to infection, or if a part of the ruptured tube should remain, it would be wise to drain. (11) Pelvic abscess. In this condition not only should the pus be removed at the time of operation, but the escape of that which formed subsequently should be secured by means of drainage.

What method of drainage should be employed? Vaginal drainage, which had been much employed, was now largely discarded. The two methods now generally used were with the drainage-tubes placed in the abdominal incision, and with the tampon of Mikulicz. The former was of more universal application, being especially fitted to prevent the accumulation of fluid in the pelvis. The Mikulicz tampon was especially effective for those cases where localized septic infection took place, as in pelvic abscess, ruptured pyosalpinx, and advanced extra-uterine pregnancy.

Dr. W. Gill Wylie said he had hardly arrived at definite conclusions as to what cases should or should not be treated by drainage. He had, however, one rule which he followed in opening the abdomen, which was that, if there was any necessity for washing out, he invariably inserted a drainage-tube. He did this because, if an attempt was made to remove all the water with sponges, useless irritation was the result. He had lost patients from neglect of drainage. The question of the time for the removal of a tube was important. If the tube was put in where there was no septic material, it could be taken out in from twenty-four to forty-eight hours, but in the presence of infectious material it should be left in longer. He had lost only one or two patients in a hundred, and was satisfied that drainage contributed much to this success. By using small drainage-tubes the risk of hernia was not to be considered. He thought more serious mistakes likely to be made by trying to do without drainage than by using it.

Dr. W. M. Polk thought most operators would show a hesitancy in abandoning drainage, as with it the patients did so well. If it could be shown that the methods were useless, of course it would be a point gained, but he was unable to convince himself so far that this was a fact. The plan he had adopted was to drain in every doubtful case, by which he meant where there was likely to be any residuum whatever in the peritoneal cavity, even though it was a simple ascitic fluid the result of a chronic peritonitis.

The gist of the remarks by the remaining speakers was to the effect that in the presence of palpable septic material drainage should be effected, and that the same should be done when this was doubtful, thus insuring a point in favor of the patient.

Book Notices.

Diabetes: Its Causes, Symptoms, and Treatment. By Charles W. Purdy, M. D., Queen's University, Honorary Fellow of the Royal College of Physicians and Surgeons, Kingston, etc. Philadelphia and London: F. A. Davis, 1890.

Dr. Purdy tells us that his object is to furnish the physician and student with the present status of our knowledge on the subject of diabetes in such practical and concise form as shall best meet the daily requirements of practice.

We think that he has been very successful in his efforts. The chapter on the treatment of diabetes mellitus is especially satisfactory. The author does not content himself with general directions in matters of diet, but specifies exactly what articles of food and drink may be permitted, and what are to be avoided. The chapter contains a very full table giving the proportion of sugar in the leading alcoholic beverages, both American and foreign.

We note that he forbids the use of both tea and coffee to his diabetic patients, stating that the best grades of Java and Mocha contain at least ten per cent. of sugar.

The various forms of diabetes, with their appropriate treatment, are illustrated by numerous cases taken from the author's clinical records.

A novel feature of the book is a chapter on the climatology of the disease. The author has made a careful study of the United States census report of 1880 in order to ascertain the liability to diabetes in different parts of the country. As a result of his investigations he comes to the conclusion that the disease attains its highest mortality in those regions in which a low mean temperature is combined with a great altitude. In Vermont, for instance, the mortality from diabetes is 6·36 in every 1,000 deaths, whereas in Alabama it is but 0·55.

Dr. Purdy, therefore, thinks that the most favorable location for residence for diabetic patients in the United States is within the area of territory including the States of North Carolina, South Carolina, Georgia, Alabama, Mississippi, Louisiana, Arkansas, and Texas. In addition to their climatic advantages, these States also offer an almost perennial supply of those foods which are most suitable to the condition of such patients.

Die allgemeine Pathologie, oder die Lehre von den Ursachen und dem Wesen der Krankheitsprocesse. Von Dr. Edwin Klebs, O. Ö. Professor der allgemeinen Pathologie und der path. Anatomie an der Universität Zürich. Zweiter Theil. Störungen des Baues und der Zusammensetzung. (Allgemeine path. Morphologie.) Mit 79 farbigen Abbildungen in Text und 47 Farbentafeln. Jena: Gustav Fischer, 1889. Pp. xviii–836. [Price, 30 Marks.]

No more striking or merited reproof could be given to the railroading tendencies of our times, as evinced, among other things, by quiz-compends, than by our author's dignified protest against the criticism passed upon the first volume of his *General Pathology*, to the effect that, by virtue of its comprehensiveness, it was unadapted to beginners. Not so, replies Klebs. The best and most complete presentation of a subject should barely suffice our students, for the dogmatic epoch of medicine has passed away and every effort is being made today, at least in the German universities, to enroll the student as a co-worker in scientific investigations. Even although he does not bring a creative power to bear in the furtherance of this knowledge, much is to be gained by his intimate acquaintance with the facts already elucidated and his innermost conviction of his participation in, and responsibility for, them.

Hence, to enlist the student's sympathy, the works presented him should bear upon their face the impress of the utmost fairness and earnest endeavor to throw light upon the final causes of the subjects treated of. There are several ways of doing this: 1. By a simple presentation of the methods and results obtained by the author. 2. By reviewing the work of others, whose opinions should be given in as harmonious a form as their inevitable discrepancies and contradictions will allow. 3. By combining the two methods in an unflinching desire to obtain the truth even if it requires a sacrifice of the author's findings whose insufficiency is proved by the new light thrown upon them.

This, then, being our author's manner of viewing his task, we are no longer surprised by his comprehensiveness and his exactness, not only in his descriptions, but also in the very numerous and beautiful reproductions of his pathological specimens.

BOOKS AND PAMPHLETS RECEIVED.

Beiträge zur Augenheilkunde in Gemeinschaft mit Prof. Dr. E. Fuchs in Wein, Prof. Dr. O. Haab in Zürich, Prof. Dr. A. Vossius in Giessen herausgegeben von Prof. Dr. R. Deutschmann in Hamburg. 11. Heft. Hamburg u. Leipzig: Leopold Voss, 1891. Pp. 120.

The Intracranial Circulation and its Relation to the Physiology of the Brain. By James Cappie, M. D. Edinburgh: James Thin, 1890. Pp. 12–15 to 188.

An Introduction to the Diseases of Infancy. By J. W. Ballantyne, M. D., F. R. C. P. E., Lecturer on Diseases of Infancy and Childhood, Edinburgh School of Medicine, etc. With Colored and other Illustrations. Edinburgh: Oliver and Boyd, 1891. Pp. viii–242. [Price, 10*s*. 6*d*.]

Guy's Hospital Reports. Edited by N. Davies Colley, M. A., M. C., and W. Hale White, M. D. Vol. XLVII, being Vol. XXXII of the Third Series. London: J. & A. Churchill, 1890. Pp. xliii–367.

The Pocket Materia Medica and Therapeutics. A Résumé of the Action and Doses of all Officinal and Non-officinal Drugs now in Common Use. By C. Henri Leonard, A. M., M. D., etc. Detroit: The Illustrated Medical Journal Co., 1891. Pp. 6 to 300.

The Microscopical Anatomy of the Human Heart, showing the Existence of Capillaries within the Muscular Fibers. By Arthur V. Meigs, M. D. [Reprinted from the *Transactions of the College of Physicians of Philadelphia* and from the *American Journal of the Medical Sciences.*]

Report of Committee on Pathological Anatomy. Parenchymatous Aspiration: a New Method of Diagnosis. By Albert Abrams, M. D., San Francisco, Chairman. (Read before the Medical Society of the State of California, April 21, 1891.)

Corrosive Sublimate as a Disinfectant against the Staphylococcus Pyogenes Aureus. By A. C. Abbott, M. D., Assistant in Bacteriology and Hygiene, Johns Hopkins Hospital. [Reprinted from the *Johns Hopkins Hospital Bulletin.*]

Report of Experiments now being pursued in the Bacteriological Laboratory of the Academy. By Samuel G. Dixon, M. D. [Reprinted from the *Proceedings of the Academy of Natural Sciences*, Philadelphia.]

Report of William M. Smith, Health Officer of the Port of New York, to the Commissioners of Quarantine of the State of New York, 1891.

Le traitement du lupus. Par le Professeur H. Leloir. [Extrait du *Journal des maladies cutanées et syphilitiques.*]

Influenza. Von Prof. Dr. Drasche. [Separat-abdruck aus der *Wiener medizinischen Wochenschrift.*]

Organisation d'un service chirurgical en province. La nouvelle salle d'opérations de l'hospice-général de Rouen. Par le docteur A. Cerné.

Nuovo aspiratore-iniettatore. Del Dr. Emilio Pittarelli.

Miscellany.

A Four-Years' Course at the Harvard Medical School.—The *Boston Medical and Surgical Journal* for May 28th says:

"A very important step has recently been taken by the faculty of the Harvard Medical School in increasing the course of study from three years to four, as announced in the *Journal* of last week. The proposed change will not go into operation until September, 1892, and will not affect students now in the school nor those who may enter during 1891.

"The details of the new course are not yet arranged, certainly not yet made public; but in general it may be said that the entrance examination will remain the same as at present, and the course itself will comprise four years of nine months' study each. Certain essentials of a medical education which the student is expected to acquire, but on which no examination is at present required, will be put upon the list of requirements for graduation.

"Undoubtedly the requirement of an additional year will occasion a falling off in the number of students. How great the diminution will be can not be determined, as there are no data available on which to found even a conjecture. The four-years' optional course which has been in operation for several years, has been taken by a slowly increasing, but still comparatively small, number of students. It has never been very popular, and does not represent the number of students who are willing to devote the time necessary to obtain the best education available.

"As is the case in other institutions of learning, students who possess sufficient knowledge to pass the regular examinations in the studies of the first years will be able to enter advanced classes. It is possible that college students who know early enough that they are to study medicine may be able to so shape their collegiate course as to take advanced standing in the medical school, and thus still complete the two courses for the A. B. and M. D. degrees in seven years; but no arrangement between the two faculties to facilitate such an economy of time has been made.

"The decision to require four full years instead of three has been arrived at by the Harvard faculty after long consideration. As to the desirability of such a course, there has been no difference of opinion, we believe; as to the advisability of the change, there has evidently been some doubt. The school must inevitably face a diminution in the number of its scholars and a corresponding decrease in income. In voting to carry out the new course the professors of the school run the risk of a very material decrease in their already meager salaries, a risk which they willingly take. The school is at present in a very flourishing condition; and the faculty are evidently influenced by other motives than the desire for material prosperity in making the proposed addition to the time limit. The expected deficit has been in part provided for by a subscription from friends of medical education.

"A similar move toward higher medical education has been taken by the Medical Faculty of the University of Pennsylvania. At a meeting of the Board of Trustees of that University, held May 21st, Dr. Pepper, the Provost, made an offer of $50,000 toward an endowment fund of $250,000, and of $1,000 annually toward a guarantee fund of $20,000 annually, for five years, conditioned upon the establishment of an obligatory graded four-year course of medical study. The medical faculty pledged themselves to carry out this proposal, and to enter upon the four-year course in September, 1893, and subscribed $10,000 annually for five years to the endowment fund. The Board of Trustees approved the proposed change, but postponed their assent until the success of both funds had been demonstrated.

"There is reason to believe that a similar change is seriously contemplated in New York. A nearly simultaneous change in New York, Boston, and Philadelphia would compel other schools to follow their example.

"This movement ought to meet with the general approval and cooperation of all who have the best interests of the medical profession at heart. It means an education equal to that obtained in other countries, and the acknowledgment of American degrees by English and Continental authorities. It is a question whether it may not result in a change of character in the American doctor; whether the number of graduates in arts who subsequently study medicine may not grow proportionately less in number, and the scholarly element be replaced by a more distinctly scientific one. But whatever change of that sort may take place, the time involved is much better proportioned to the importance of the student's life work, and the medical graduate of coming years ought to be a distinct improvement on his predecessors."

Inhalations in the Treatment of Phthisis.—The *Lancet* for May 23d says: "The history of inhalations in the treatment of phthisis is not an encouraging one. They have been widely employed and hailed as the most rational and effective mode of assailing the disease at its seat. But the results of this method of medication have not been commensurate with the expectations excited by it, and we imagine that of late it has been gradually falling into disfavor and disuse. Several potent objections have been urged against the method. First, it has been denied that the various antiseptic and germicide agents applied by inhalation succeed even in reaching the seat of the disease—viz., the submucous tissue of the bronchial mucous membrane—but are arrested often in the pharynx, oftener still in the larynx. Then it has been shown that, even assuming that the medicated atmosphere produced by one of the ordinary inhalers really reaches the seat of the disease, its impregnation with carbolic acid, creasote, thymol, or other such agent, is so exceedingly feeble as to leave no solid ground for anticipating serious benefit from its use. Further, many authorities urge with much force that if the phthisical patient be taught to rely upon inhalations the inevitable result will be a life of indoor invalidism and constant tinkering with his inhalers—a mode of existence sure to effect an amount of mischief more than sufficient to counterbalance the problematical advantages of inhalation.

"There is much weight in the above objections, and until they can be satisfactorily met the place of inhalations in the therapeutics of phthisis can not be an important one. Professor Germain-Sée, in a recent paper presented to the French Academy of Medicine, has sought to overcome the first of the objections to which we have made allusion—viz., the failure of the medicated atmosphere to reach the actual seat of the disease. He recalls the researches made at various times into the action of creasote upon tuberculosis. This drug has had a remarkable and somewhat checkered career. Discovered in 1832 by Reichenbach, its true composition was first made known in 1853 by Gorup-Besanez, who showed that it consisted mainly of two substances—gaïacol and créosol. It was in 1877 that Bouchard and Gimbert conceived the idea of its possible utility in phthisis, and made trial of it both *per primam viam* and hypodermically. Later, Fraenzel and Sommerbrodt in Germany made extensive trial of creasote, and reported benefit from its use. Guttmann, in his researches in the year 1889, found that the saturation of the system with creasote arrested the development of the bacilli, and suggested that the best means of bringing the system thoroughly under the influence of the drug would be to submit the patient to an atmosphere saturated with creasote under pressure. This is also the method recommended by Professor Germain-Sée. He describes it as follows: 'The patient is shut up in a metal chamber, hermetically closed, and compressed air, passed through creasote and eucalyptol, is made to enter slowly. The air in passing through these liquids is saturated, and arrives charged with a large quantity of these medicaments. The pressure must be slowly increased, and should not exceed a half-atmosphere. The speed of delivery of the air saturated with the medicated vapors is from fifteen to twenty cubic metres per hour for a space of five cubic metres of capacity. The length of time the patient remains in the chamber is usually two hours, sometimes three or more, and no inconvenience ensues as the result of this procedure. The inhalations are made daily or more frequently.'

"Professor Germain-Sée has tried this method in twelve cases, of which one was a case of apical bronchitis, a second was a case of fœtid bronchitis, and the remaining ten were genuine cases of tubercular phthisis—all of which, with one exception, had arrived at the stage of softening. The results obtained would appear to be surprising, a marked amelioration being in most cases observable, not only in the amount and character of the expectoration, but in the general constitutional condition, and in some cases, though not in all, a corresponding improvement in the physical signs. Contrary to what might seem probable, hæmoptysis was not only not excited, but seemed controlled by this mode of treatment, and the appetite and digestion were improved rather than otherwise. Hectic fever was also diminished. Naturally, the least improvement was manifested in the physical signs, but Professor Germain-Sée is inclined to hope that by this new method the disease, if not cured, may be at least arrested, and further progress prevented. Benefit was obtained in some cases in a fortnight, in others the treatment was kept up for three months. Very great benefit was obtained in some cases of scrofulous enlargement of the cervical glands.

"At the present time it is hardly necessary to emphasize the necessity for extreme caution in admitting the claims of any new alleged remedy for tuberculosis, and the evidence before us in the present case, although interesting, falls immeasurably short of demonstration. Further trials will no doubt be made, and the results will be awaited with attention. One benefit, somewhat negative in character, may even now be derived from Professor Germain-Sée's researches—viz., the realization of the utter futility of the methods of inhalation so long adopted, and the uselessness of the inhalers now commonly employed. If inhalation is ever to become a valuable agent in therapeutics, it will probably be by the adoption of some plan analogous to that sketched above, and, according to our present knowledge, the most hopeful medicament with which to experiment would seem to be creasote."

The Medical Faculty in Japan.—*The British Medical Journal* for May 23d says: "Mr. Ernest Hart, who has paid a spring visit to Japan, and who is now on his way home through Canada, writes under date April 7th from Tokio as follows:

"Most of us are acquainted with the eager earnestness with which the Japanese have, since issuing from their self-enforced seclusion, which lasted for centuries, adopted, since the restoration of the Mikado in 1864, European methods of instruction, and the remarkable aptitude which many of the Japanese students in London have shown for reaching great proficiency in abstract science as well as in technical knowledge and industrial arts. Men like Takagi, Miyaki, Sasaski, and others have left behind them an excellent record in our medical colleges. By far the larger number of Japanese students who come to Europe, however, are educated in the German universities—at Berlin, Strassburg, Vienna; for the Japanese are very eclectic—they have taken their medicine and surgery from England and Germany, but of late years their scientific predilections in medicine have found more satisfaction in Germany than in Great Britain; only a small proportion of the profession talk English, while most of them not only talk German, but lecture in German, and a good deal of their best work is published either in Virchow's *Archiv* and other leading German periodicals, or in the German *Medical Transactions* of the University, of which I shall later give some account.

'The feeling toward England is, however, very strong and friendly, and immediately on reaching Tokio, the former seat of the Shogunate under its old name of Yedo, and the present seat of the Imperial Government and metropolis of Japan, I was very warmly welcomed by the leading medical faculty as well as by the ministers and others, many, who as delegates or diplomatists had been at my house and visited my Japanese collection in London, taking the opportunity of reciprocating and outdoing any courtesies which I had been able to offer, and doing everything which could be thought of to make my visit instructive and agreeable—to lay open all the art treasures, the scientific institutions, and the domestic and social habits of every class, and to give me opportunities of conference with the most distinguished and ablest men of every class. If, therefore, I bring home an imperfect estimate of the great resources, marvelous progress, exquisite beauty, and complicated difficulties of this remarkable country, the fault will be with the dullness of my apprehension and the indequate time at my disposal for the great task involved in even a superficial survey of parts of the subject.

"I must approach with some care the medical part of the subject later on, when I have time to collate my notes and abstract the voluminous material which has been placed at my disposal.

"Meanwhile it may be of interest to the readers of the *British Medical Journal* to know that it is in the hands of many Japanese practitioners. It was lying on the professor's table when I entered Dr. Miyaki's room. I found the Japanese medical paper of that week quoting liberally from its pages. The prompt hospitality of our Japanese colleagues led them to honor me by an invitation to a banquet before I had been many days in Tokio, and in the address which I was invited to give will be found some preliminary comments on the state of Japanese medicine. At the request of my auditors, I also gave an account of the organization of the British Medical Association. This is likely to bear fruit; and at a subsequent dinner to which the Medical Society of Tokio has invited me I shall further develop them and apply it to Japanese needs. Such a propaganda can but be honorable to our association and useful to the inhabitants of the Far East.

"The address which I gave to this influential and interesting audience will always be connected in my memory with the cultivated and picturesque surroundings, of which I must give a short account, not to omit the local color.

"The address and banquet were at Koyokau, 'the red maple house,' a club, restaurant, and tea house, in one of the most beautiful districts of this broad-acred and romantic city.* A European friend who was present with me has made a note of the picturesque surroundings and incidents of the ceremony which may be of interest. It runs as follows:

"'We arrived in a *jinrikisha* at the door of the Maple Club. We were received by a bevy of Japanese maidens, dressed in daintily colored *kimonas*, who sat on their heels on either side of the entrance hall. Bowing their heads to the ground, and chattering in low musical voices, they bade us welcome. Shoes or boots were left at the doorstep, and guided by one or two of the *muismes*, or serving maids, we are conducted into a large upper room. It was perhaps one hundred feet long, ten feet high, and measured seven mats, or twenty-one feet across. At each third of the room a carved panel divided it to the height of two feet from the ceiling. In these carved divisions slid the panels by which the room can be shut off into two or three separate compartments as required. Along the whole of one side of the long room were the windows, which consisted of panels beautifully fitted into grooves and made to slide over one another, so that in summer weather one side of the room could be opened entirely to the balcony, which overlooked the garden, where in true Japanese fashion a miniature river wound under a tiny bridge, and through a wood of dwarfed forest trees. The panes of the two upper thirds of the panels were filled with a finely made and translucent paper, but the lower third was filled with glass. On the opposite side of the room was the *Jokonoma*, or sacred recess, where on a raised dais stood a huge vase filled with great branches of the blossoming tulip tree, behind which hung a *kakemono* of storks and cherry blossoms. From the ceiling were suspended candelabra fitted with the incandescent electric light.

"'The audience consisted of twenty-seven Japanese medical men, most of whom had graduated in European universities. They sat on low spring cushions on the floor ranged against the wall or panels of both sides of the long room. At the head of the room sat Mr. and Mrs. Ernest Hart on raised cushions out of consideration for their European incapacity to sit on their heels. Next to Mr. Hart was Dr. Takagi, now Chief Medical Officer of the Navy, and once a student at St. Thomas's Hospital. His complete command of the English tongue enabled him to fulfill admirably the duties of interpreter, and he translated the address sentence by sentence to the attentive and interested audience. All but six were in European dress, all were shoeless, and as they sat listening with profound attention and absolute silence, they warmed their hands over the charcoal *chibachi* or braziers placed on the floor before them.

"'The address ended, and the vote of thanks given, the electric light was turned on, and the festive part of the evening began. The little serving maids who had welcomed us in the hall began trooping in, and, going down on their knees, placed before each guest a square lacquer tray containing viands of different kinds. The *menu* of the Japanese dinner is long, complicated, and multifarious. It consists chiefly of fish, cooked and uncooked, and of soups exquisitely made, in which various solid foods are suspended. Bamboo shoots, octopus cutlets, birds' nests, sharks' fins, are delicacies which give variety to the dinner. Little wooden chopsticks do duty for knives, forks, and spoons, and the soups are drunk out of small lacquer bowls. The dinner generally begins with raw fish eaten with soy, and ends with tea, rice, and pickles. Three times the little maids on their knees placed a tray containing bowls of soup and dishes of eatables before each guest, and while the guests ate, the maids waited silently, sitting on their heels, filling and refilling your lacquer cups with saki, or removing empty dishes. Dinner was long, lasting some hours, but dining is with the Japanese less the serious business of eating than the lighter one of being amused; and to make the time pass easily and merrily, *gaisha* dances and clever jugglery were interlarded with courses of fish on lacquer trays. Complete ease and freedom, controlled by the perfect manners of an Eastern people, prevail at a Japanese dinner, and if one friend wishes to talk to another at the other end of the room, he slips the panel behind him, passes into the veranda or passage, and, entering the room again by sliding the wall panel behind his friend, sits down on the floor before him.'"

The late Professor Carl Braun.—Dr. H. J. Garrigues contributes the following memorial sketch to the June number of the *American Journal of Obstetrics and Diseases of Women and Children*, which is illustrated by a fine portrait of the dead obstetrician:

"On the 28th day of March last died in Vienna, the capital of Austria, Carl Rudolph Braun von Fernwald. He was born on March 22, 1823, in a small place in Austria, where his father was a practicing physician. After having gone through college, he studied medicine during six years, and graduated as M. D. in 1847. Two years later he became the assistant of Professor Klein at the Obstetrical Clinic, as successor to the unfortunate Semmelweis, the first man in the world who understood the septic nature of so-called puerperal fever and showed how to prevent it. In the year 1853 he became instructor of obstetrics (*Privatdocent*), and was the same year appointed professor of obstetrics, and vice-director—that is, second physician—to a school for midwives in Tyrol. At Klein's death, in 1856, Braun was called back to Vienna to be his successor as professor of obstetrics at the University, and physician-in-chief to a department of the Obstetrical Clinic. Two years later he opened a gynæcological clinic that soon became one of the great attractions of the Viennese University. In 1887 he was elected first president of the newly founded Gynæcological Society, a position which he occupied till his death. It was in this function that he appeared last in public. On February 17th he occupied, in his usual good health, the chair. The next morning he had an attack of bronchitis, to which soon was added weakness of the heart, causing œdema and unconsciousness, until death put an end to his active life.

---

* Tokio covers 100 square miles, and contains about 900,000 inhabitants.

"Carl Braun contributed considerably to the obstetrical and gynæcological literature of the last forty years. From 1852 to 1855 he was, together with Chiari and Späth, editor of the *Klinik für Geburtshülfe und Gynäkologie.* Later he was one of the editors of the *Archiv für Gynäkologie.* He wrote numerous articles in different journals, on subjects belonging to the domain of gynæcology and obstetrics, and in 1857 a *Textbook of Midwifery,* in which he continued the good work of his two predecessors, Baër and Klein, who have exercised great influence on the development of the obstetric science and art in German-speaking countries. In the second edition of this work, published in 1878, he included gynæcology.

"His name is attached to several instruments, some of which are extensively used. Thus, he constructed a syringe for injecting small amounts of fluid into the uterine cavity. If his *colpeurynter* is less reliable in checking hæmorrhage than a tampon, it is a valuable aid for increasing labor pains and dilating the vagina when Barnes's cervical dilators have done their work. He enlarged the size of Simpson's cranioclast, and improved it so much as an instrument of traction that it, in the hands of many accoucheurs, has replaced the more dangerous cephalotribe. Braun's *Schlüsselhaken* (*i. e.,* key-hook) is an original, simple, and excellent instrument for decapitating the fœtus in neglected cross-presentations.

"Braun began as an obstetrician, and his name will probably live longer on the lips of posterity in connection with this branch than with gynæcology; but he was among the first in his country to understand the importance of the new science that was being developed on both sides of the Atlantic for the benefit of suffering women. He took part in the movement, he propagated the new doctrines among his numerous pupils, and he acquired the necessary dexterity for the performance of the greatest gynæcologial operations. In his eyes gynæcology should be intimately connected with obstetrics, just as he combined the two in his practice and in the second edition of his book.

"As a successor of Semmelweis, in the very wards where he had laid the foundation of antiseptic midwifery by enjoining the students to wash their hands with chlorine water before they made vaginal examination, Braun has contributed much to the enormous saving of human life which distinguishes modern obstetrics from that of all previous ages. At the head of one of the largest lying-in services in the world—one that is extensively used for teaching purposes, one that is situated in most unpromising surroundings, and one to which the severest cases are sent from a large circumference—Braun brought the mortality down to less than one per cent.

"Braun was an enthusiastic and eloquent teacher, among whose audience might be found students from all countries. His genial ways ingratiated him with the young men. His large experience gave great weight to his opinion in consultation with other practitioners. He acquired a large and lucrative practice. Women from over the whole world sought his advice. He was the favorite of the highest classes of society, was knighted and covered with orders. With knowledge and skill he combined a striking personality and that sympathy with the patient which gains confidence and thus forms the beginning of a cure. For forty years a writer, a teacher, a physician, and an operator, he died in the full enjoyment of his mental powers, honored by his countrymen, admired by his students, and beloved by his patients."

An Obstacle to Scientific Research in England.—In a dispatch dated June 6th, the London correspondent of the *New York Times* says:

"The principal biologists and scientists of England, headed by Lubbock, Lister, Lockyer, Playfair, Roscoe, and others, to the number of one hundred and fifty, and backed by strong letters from Huxley and Tyndall, yesterday waited on Sir Michael Hicks-Beach, President of the Board of Works, for a second time to beg that a license be found for the British Institute of Preventive Medicine, and for a second time met with a refusal. Their eloquent speeches laid stress upon the national disgrace of a situation in which English students of bacterial growths were compelled to go to Paris, Berlin, and Vienna to study their science, and intelligent inquiry and experimental research were forbidden on English soil as if it were an impious thing to seek for wisdom in the science of saving human life. Sir Michael Hicks-Beach gave an evasive and roundabout reply, which the London *Times* editorially translates as meaning that the anti-vivisectionists have many times more votes in England than all its men of science put together. English laws pay great attention to conserving the rights of rich men to breed hares, rabbits, and game birds for annual slaughter and maiming by shooting parties, but they sternly punish a man of science who chloroforms one of these rabbits for purposes of experiments having no earthly purpose but to increase knowledge as to saving human life. But without these grotesque paradoxes this wouldn't be England."

To Contributors and Correspondents.—*The attention of all who purpose favoring us with communications is respectfully called to the following:*

Authors of articles intended for publication under the head of "original contributions" are respectfully informed that, in accepting such articles, we always do so with the understanding that the following conditions are to be observed: (1) when a manuscript is sent to this journal, a similar manuscript or any abstract thereof must not be or have been sent to any other periodical, unless we are specially notified of the fact at the time the article is sent to us; (2) accepted articles are subject to the customary rules of editorial revision, and will be published as promptly as our other engagements will admit of—we can not engage to publish an article in any specified issue; (3) any conditions which an author wishes complied with must be distinctly stated in a communication accompanying the manuscript, and no new conditions can be considered after the manuscript has been put into the type-setters' hands. We are often constrained to decline articles which, although they may be creditable to their authors, are not suitable for publication in this journal, either because they are too long, or are loaded with tabular matter or prolix histories of cases, or deal with subjects of little interest to the medical profession at large. We can not enter into any correspondence concerning our reasons for declining an article.

All letters, whether intended for publication or not, must contain the writer's name and address, not necessarily for publication. No attention will be paid to anonymous communications. Hereafter, correspondents asking for information that we are capable of giving, and that can properly be given in this journal, will be answered by number, a private communication being previously sent to each correspondent informing him under what number the answer to his note is to be looked for. All communications not intended for publication under the author's name are treated as strictly confidential. We can not give advice to laymen as to particular cases or recommend individual practitioners.

Secretaries of medical societies will confer a favor by keeping us informed of the dates of their societies' regular meetings. Brief notifications of matters that are expected to come up at particular meetings will be inserted when they are received in time.

Newspapers and other publications containing matter which the person sending them desires to bring to our notice should be marked. Members of the profession who send us information of matters of interest to our readers will be considered as doing them and us a favor, and, if the space at our command admits of it, we shall take pleasure in inserting the substance of such communications.

All communications intended for the editor should be addressed to him in care of the publishers.

All communications relating to the business of the journal should be addressed to the publishers.

LIBRARY
OF THE
UNIVERSITY OF ILLINOIS

ILLUSTRATING THE ARTICLE BY DR. PRUDDEN AND DR. HODENPYL.

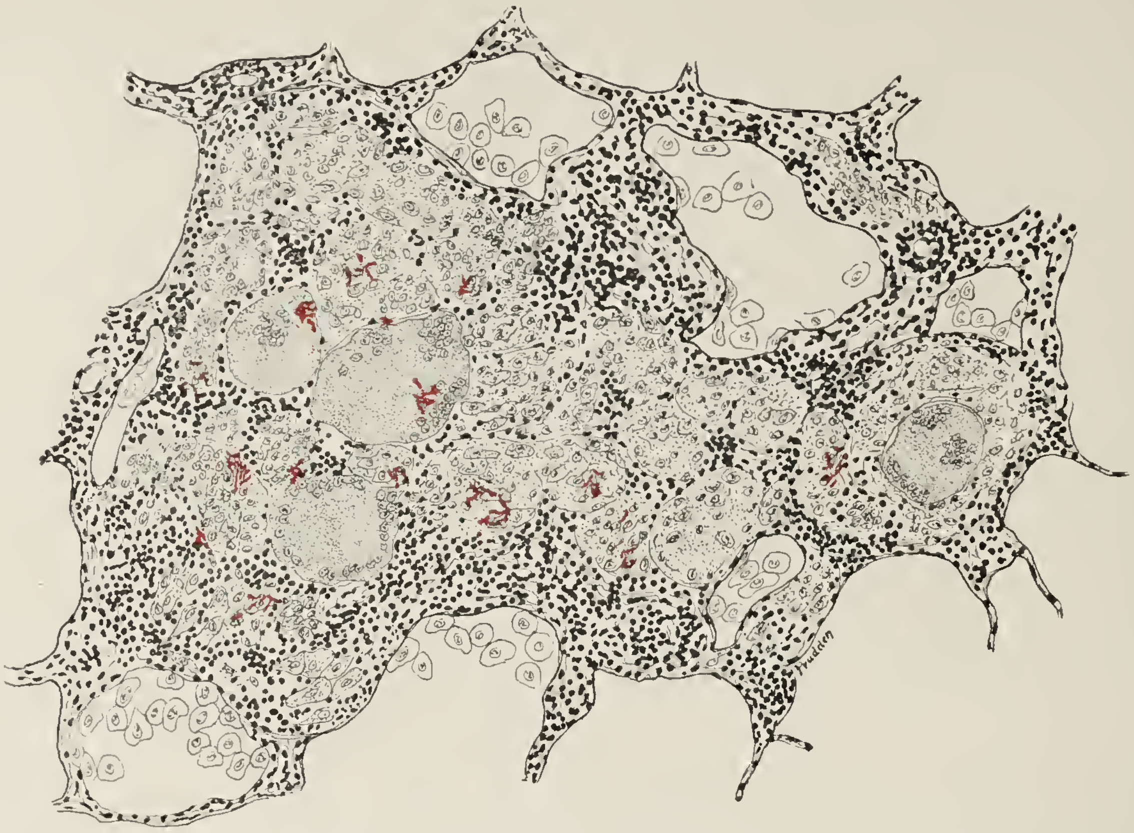


Fig. 1.—Nodule in rabbit's lung, ten days after intravenous injection of dead tubercle bacilli. Steamed three hours.

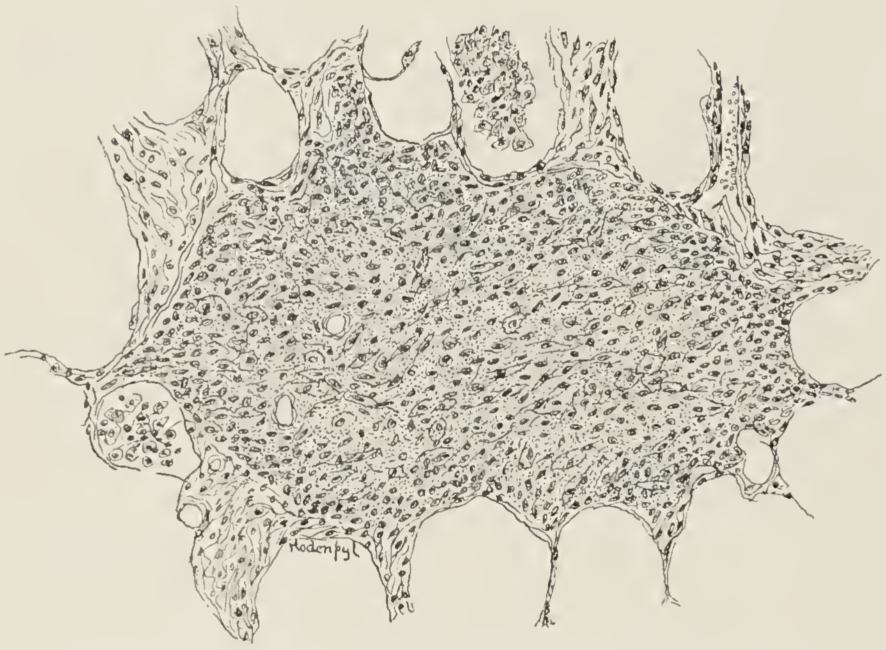


Fig. 2.—Nodule in rabbit's lung, twenty-eight days after intravenous injection of dead tubercle bacilli. Culture steamed two hours.

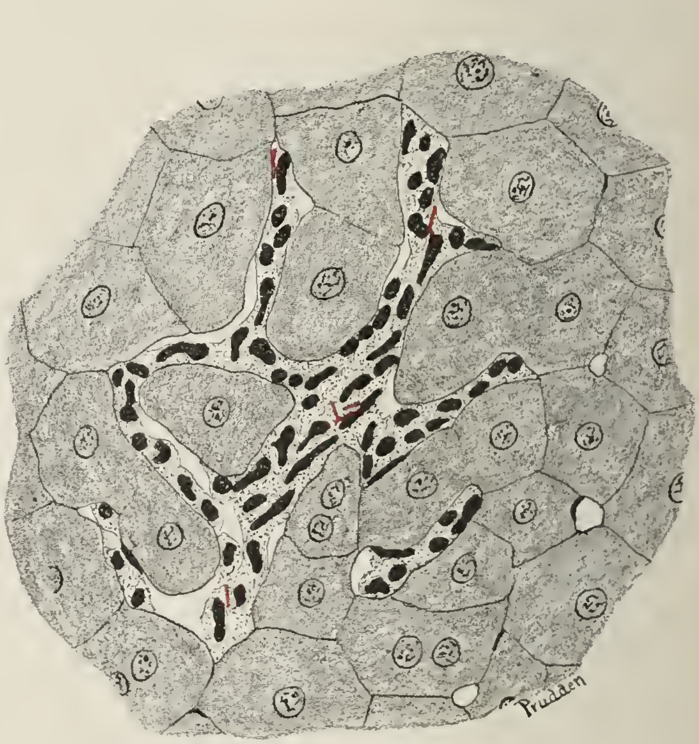


Fig. 3.—New-formed cells in capillaries of the rabbit's liver, seventeen days after intravenous injection of dead tubercle bacilli. Culture steamed four hours.

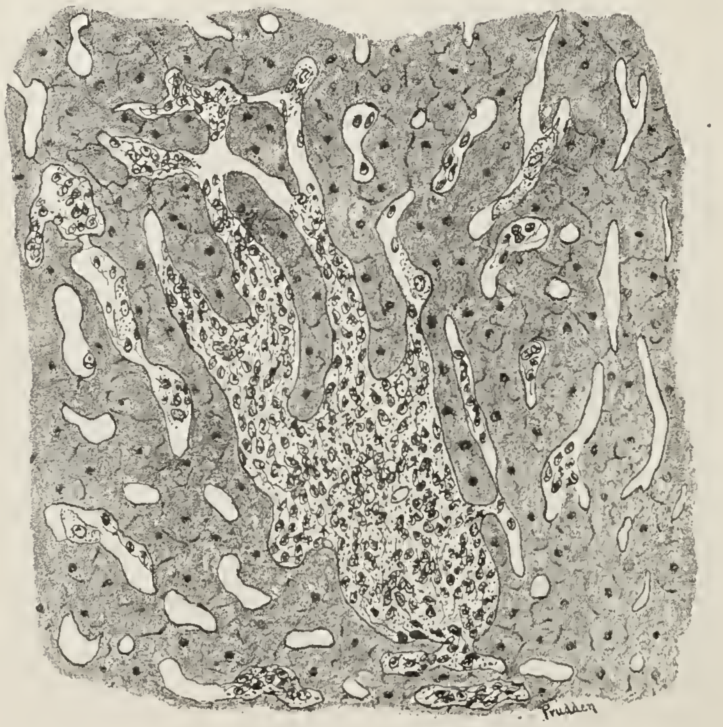


Fig. 4.—Diffuse cell-proliferation in vessels of rabbit's liver, twenty-five days after intravenous injection of dead tubercle bacilli. Culture steamed an hour and a half.

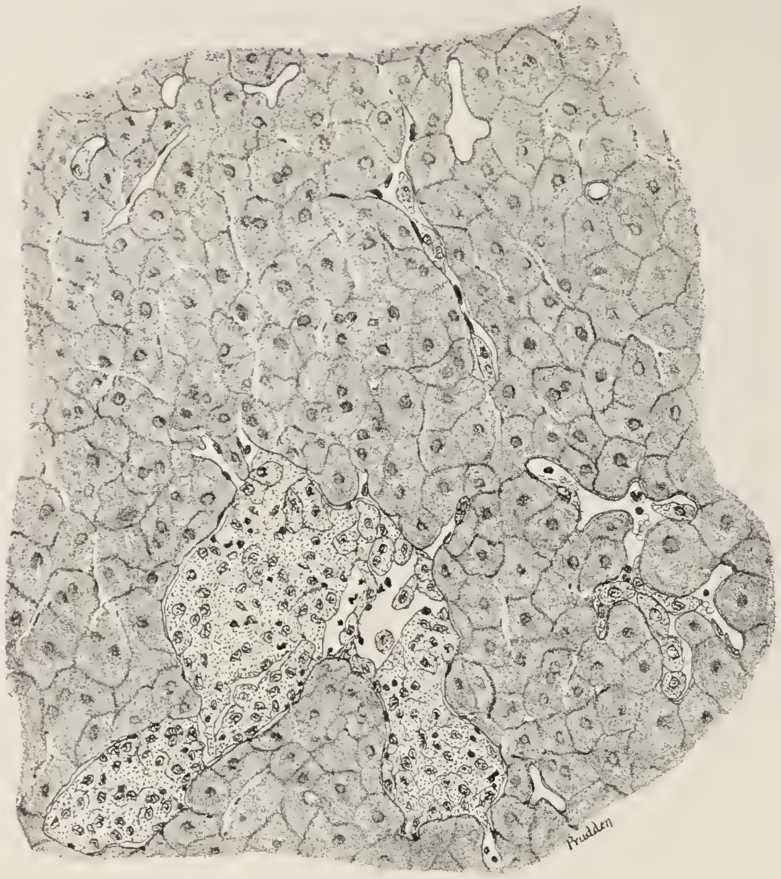


Fig. 5.—Small circumscribed area of cell-proliferation in vessels of rabbit's liver. Same animal as in Fig. 4.

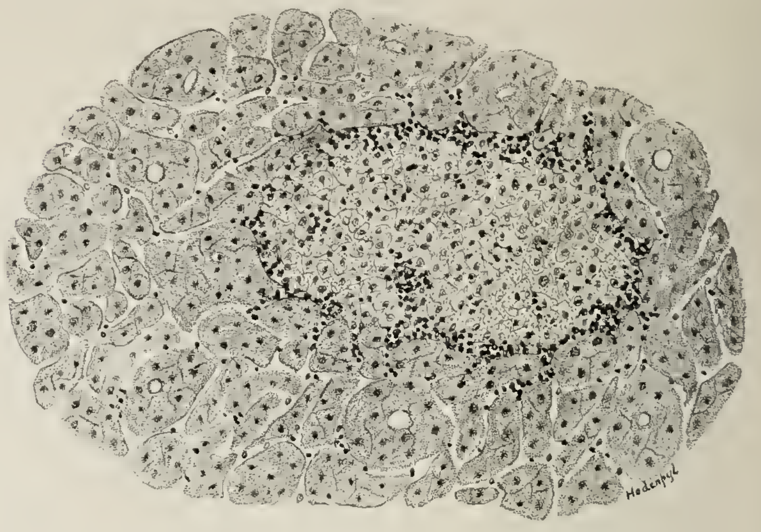


Fig. 6.—Small circumscribed epithelioid cell-mass in rabbit's liver, surrounded by zone of small spheroidal cells, twenty-five days after intravenous injection of dead tubercle bacilli. Culture boiled an hour and a half.

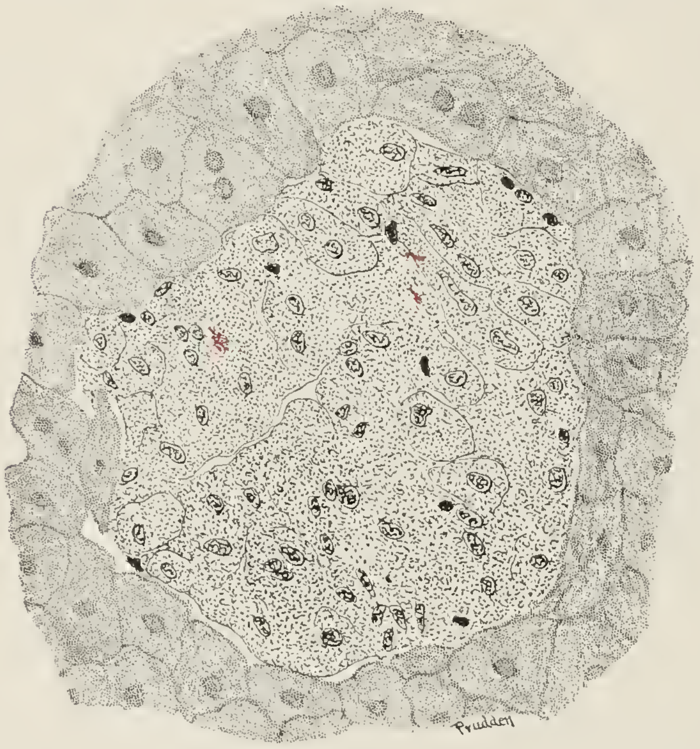


Fig. 7.—Small nodule in rabbit's liver consisting of a mass of epithelioid cells, forty-eight days after intravenous injection of dead tubercle bacilli. Culture steamed three hours.

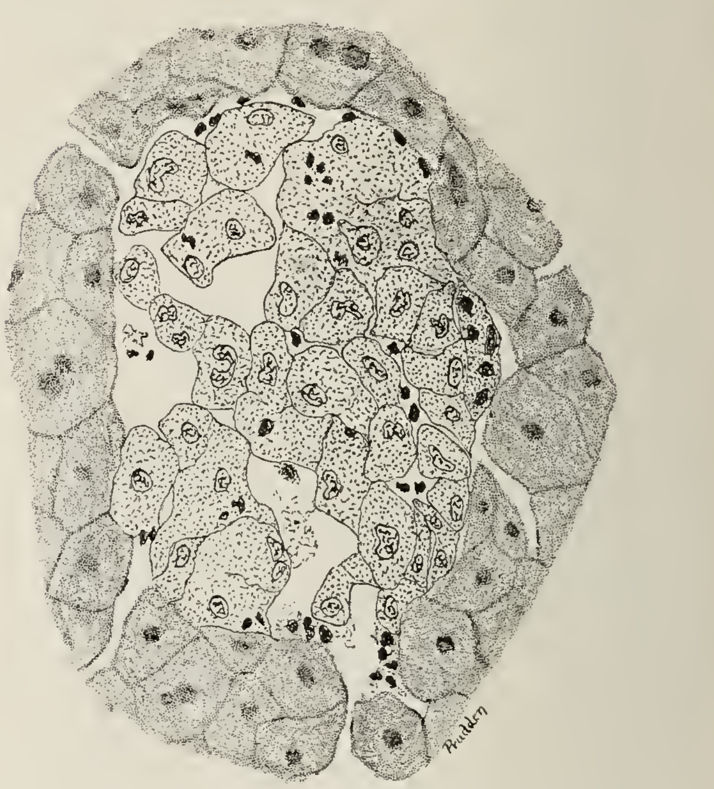


Fig. 8.—Small liver nodule composed of epithelioid cells. Same animal as in Figs. 6 and 9.

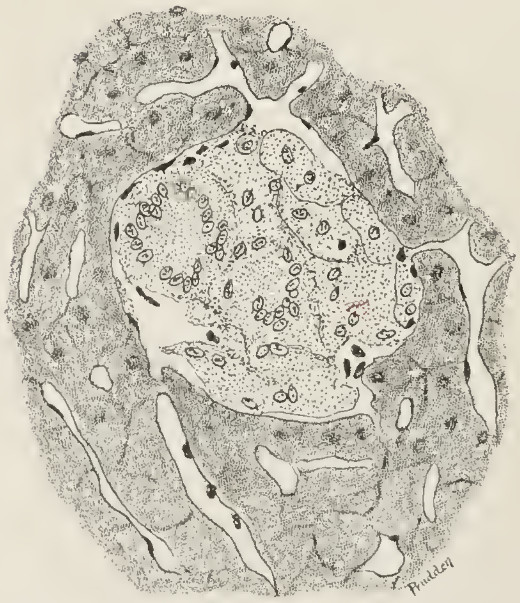


Fig. 9.—Nodule in liver composed of epithelioid and giant cells. Same animal as in Figs. 7 and 8.

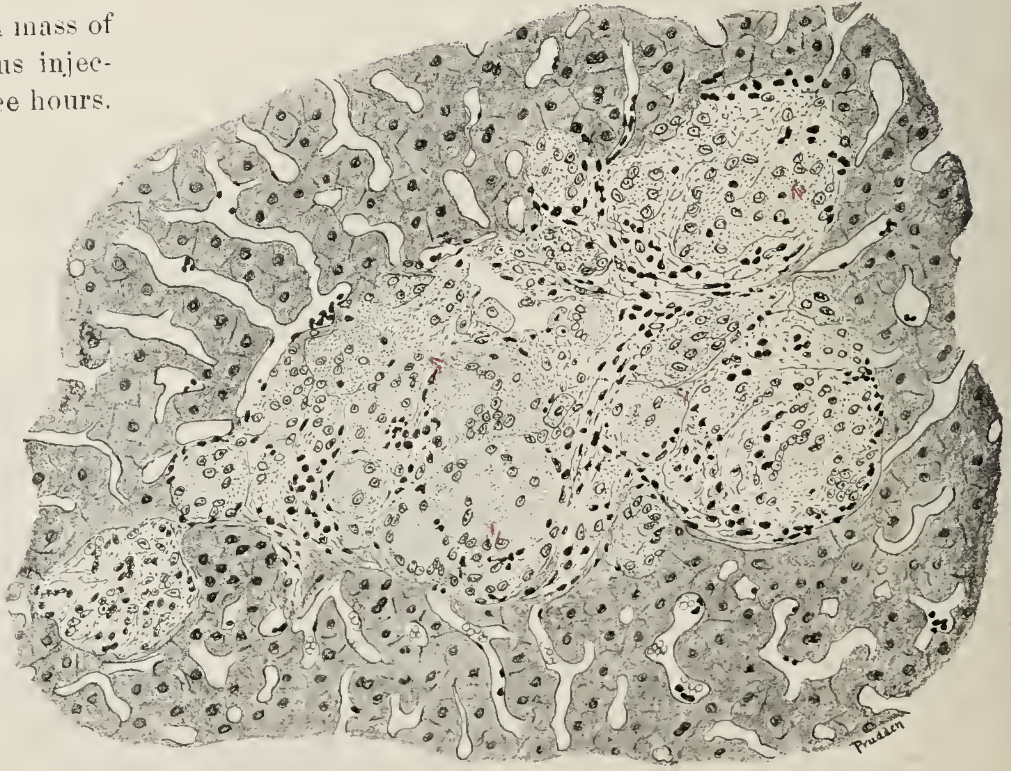


Fig. 10.—Complex nodule in rabbit's liver, consisting of a congeries of epithelioid and giant cell masses, thirty-five days after intravenous injection of dead tubercle bacilli. Culture steamed two hours. Very few bacilli are remaining.

THE NEW YORK MEDICAL JOURNAL, JUNE 20, 1891.

Original Communications.

STUDIES ON THE ACTION OF DEAD BACTERIA IN THE LIVING BODY.

By T. MITCHELL PRUDDEN, M. D.,
DIRECTOR OF THE LABORATORY OF THE ALUMNI ASSOCIATION, COLLEGE OF PHYSICIANS AND SURGEONS, NEW YORK. ;
AND EUGENE HODENPYL, M. D.,
FIRST ASSISTANT IN PATHOLOGY.

SECOND ARTICLE.—THE ACTION OF STERILIZED CULTURES OF THE TUBERCLE BACILLUS.

WE have seen in the first article (1) that the action of bacteria in the body is by no means limited to the changes induced by those substances called ptomaines and albumoses, or toxalbumins, which are set free by living germs. It appears that the proteid constituents of the bacterial cells themselves, when these are set free, either by a natural disintegration of the germs or by an artificial extraction, are capable not only of stimulating the fixed body cells to proliferative changes, but may, by calling into play the forces involved in chemotaxis, cause either a moderate collection of leucocytes or induce marked suppuration.

It is probable that these two fairly distinct factors, the eliminated ptomaines and albumoses on the one hand, and the bacterio-proteins on the other, are both involved in many, if not most, of the acute infectious diseases. But one or other of these factors is apt to be so preponderant in many cases as to fairly dominate both the symptoms and lesions.

For example, in tetanus, typhoid fever, and Asiatic cholera, the toxic substances absorbed into the body at large from the seat of growth of the pathogenic germs may determine profound and even fatal symptoms without much local change at the proliferating germ centers.

On the other hand, in many of the local suppurations—in pneumonia and in tuberculosis, for example—the most marked effects are apt to be induced in the immediate vicinity of the invading germs.

In still other diseases—diphtheria, for example—we may have extreme local tissue changes together with profound systemic effects.

Finally, under a variety of unusual conditions, pathogenic germs which commonly induce one particular order of lesions may bring about most striking alterations of another class.

As an example of this variability of effect, we may cite the suppurative inflammations which not infrequently occur as complications of typhoid fever, when these germs lodge or grow in unusual situations.

Perhaps the most striking example of a pathogenic germ whose effects are closely limited to the immediate neighborhood of its seat of growth is the *Bacillus tuberculosis*. That there may be systemic effects induced by the absorption into the body at large of poisons eliminated by the tubercle bacillus, we, of course, can not deny. But if such there be, we certainly know very little about them, and they must be insignificant in comparison with the dominant lesion of tuberculosis—namely, the production immediately about the germs of a new short-lived tissue having a moderately characteristic morphology and prone to undergo degenerative changes of great significance, both to the germs which cause it and to the integrity of the invaded organ.

It is because of the peculiarly direct and constant relationship between the germ and the lesions which it induces that we have selected the tubercle bacillus for an experimental study along the lines which our preliminary paper has suggested.

But, before detailing our own experiments, it seems desirable to briefly notice some observations already made in this field, which will have a bearing in establishing our point of view.

A number of studies have been made on the metabolic products set free during the growth of the tubercle bacillus both in cultures and in the body. But these studies have been made from such a variety of different standpoints and with such different technique that it is difficult to glean any very positive and definite data from the results.

Hammerschlag (2) found in the alcohol and ether extract of the tubercle bacilli, fat, lecithin, and a poison which induced spasms and death in rabbits and guinea-pigs. The residual material of the bacilli contained an albuminoid and cellulose. He could not separate a ptomaine by Brieger's method, but did find evidence of a fever-causing toxalbumin.

The recent publications of Koch on the nature and effects of substances in or derived from cultures of the tubercle bacillus we may assume to be familiar to all our readers. But the manner in which they have been made known and the lack of detail in the description of the mode of preparation of his "lymph" leave his results in a most unsatisfactory state of indefiniteness, so far as the scientific bearing of the subject is concerned. Some substance or substances, it would appear, either set free during the growth of the tubercle bacilli or, as it is said, extracted from them by glycerin, are capable of exerting rather ill-understood effects upon tubercle tissue in the body and are not without extreme effects in many cases upon the body at large. With the therapeutic bearing of the substances contained in Koch's tuberculin we have here nothing to do.

One point, however, in Koch's last publication on this subject has an important bearing upon the subject in hand—namely, the statement that pure cultures of the tubercle bacillus killed by boiling, or in other ways, are capable of inducing local suppuration with no other effects, if introduced subcutaneously into the guinea-pig.

Hueppe and Scholl (3) cultivated the tubercle bacilli in a glycerin-peptone bouillon, and found that the fluid contained substances having essentially the same effects upon animals as those noted by Koch. As the result of an interesting series of experiments, these observers came to the conclusion that the specific poison of Koch's "lymph" did not belong to the proteins, but to some substance or substances eliminated by the bacilli during their growth and contained in the culture fluids, and which were not, as Koch asserted, extracted from the culture by glycerin. Hueppe and Scholl separated from the "lymph" which they had prepared, and which seemed to be practically identical with the "lymph" of Koch, by precipitation with alcohol, a substance which appears to contain the active ingredient of the "lymph." They separated in the same way the same substances from Koch's "lymph," and, on testing these in tubes beneath the skin of animals, they found that in both cases this substance was markedly chemotactic.

That Koch's "lymph" is not, as it is furnished in the crude condition, chemotactic and does not tend to cause abscesses, may be due to the fact that it contains glycerin, which exerts an influence on the leucocytes opposite to that which positive chemotactic substances display.

Trudeau (4), working also with fluid cultures, obtained materials apparently the result of metabolic processes of the tubercle bacilli which induced toxic effects upon animals. But these were not marked, since he did not succeed in sufficiently concentrating the fluid containing the materials sought for.

Zulzer (5) extracted from agar cultures a substance which, on purification and injection subcutaneously in small quantities into rabbits and guinea-pigs, caused temporary increased rapidity of respiration and an elevation of temperature. Larger does were fatal.

Crookshank (6) separated the bacilli from glycerin-broth cultures by filtration, and concentrated the filtrate by evaporation. This concentrated filtrate, injected subcutaneously into guinea-pigs, induced muscular spasms, a lowering of the temperature, and death.

Weyl (7) extracted tubercle bacilli with dilute caustic soda, and found in this extract a substance which seemed to him to belong in the mucin group. Subcutaneous injection of a solution of this substance produced in animals a local necrosis at the seat of injection.

Maffucci (8) found that sterilized cultures of tubercle bacilli introduced beneath the skin of guinea-pigs in considerable amounts were capable of inducing a chronic poisoning of the organism, ending in death from marasmus and great destruction of the red blood-cells in the spleen, but does not note any marked local changes beyond the producing of an abscess.

Wyssokowicz (9) killed the tubercle bacilli in cultures by boiling, and these on subcutaneous injection in a rat caused a small local abscess, containing well-formed and readily stained though dead tubercle bacilli.

An emulsion of a boiled culture of the tubercle bacilli was injected into the abdominal cavity of a rat. The animal was killed on the thirtieth day. A few small nodules were found beneath the liver which consisted of a central pus-like mass surrounded by a thin new-formed tissue wall. The central portion of these nodules consisted of tubercle bacilli and leucocytes, while their walls were composed largely of endothelial cells, with here and there giant cells among them. Readily stained tubercle bacilli were scattered through the walls of these nodules, and the epithelioid and giant cells were often grouped about them. The microscopical examination of the liver revealed numerous small spheroidal nodules composed of epithelioid cells and leucocytes, among which were scattered a few tubercle bacilli.

We know that various kinds of substances, organic and inorganic, when introduced into the body, can become surrounded by a tissue in many respects resembling tubercle tissue. This was abundantly shown in the years just preceding the discovery of the tubercle bacillus and the final establishment of tuberculosis as an acute infectious disease. Whether the dead tubercle bacilli in these experiments of Wyssokowicz's act in some special way in stimulating the tissues to these tubercle-like growths, or whether they do this simply as foreign bodies, must be shown by further studies.

The action of the living tubercle bacillus in inducing the local lesions of tuberculosis seems to be quite complex. But there appear to be several tolerably distinct classes of influences at work.

In the first place, there seems to be an irritation or stimulation of the tissues near the bacilli which results in the proliferation of cells, primarily and notably of the connective tissue cells. The effect of this is to produce what is called the epithelioid cell tissue. Following this, or associated with it, there is a local action either on the leucocytes or the blood-vessels, or both, which leads to the accumulation of small spheroidal cells either in the periphery of the tubercle or distributed through it. Generally there is a necrotizing action which results in the coagulation necrosis or cheesy degeneration of the new-formed tissue or other tissue near the tubercle.

The giant cells which form such striking features in many phases of tuberculosis appear to be formed under the influence, on the one hand, of those factors which induce cell proliferation, and, on the other, of those which retard the completion of the cell proliferation when once it is under way. The impulse to cell division under these circumstances is in so far successful that a protoplasmic mass is formed with many nuclei, but the consummation of this attempt, the division of the cell bodies, is in abeyance.

In view of the new facts regarding the singular power of the bacterio-protein and chemotaxis which the researches briefly summarized in our first article have revealed, and the promising but, it must be confessed, rather obscure light which the recent studies on the poisons of the tubercle bacillus have elicited, it has seemed to us that some further studies on the tubercle bacillus should be made with the view of learning, if possible, in more detail something of the factors which are concerned in developing the complex structures which we call tubercles and tubercle tissue.

Our first series of studies was made with the view of determining what effects, if any, are produced in the body of the rabbit by the introduction of cultures of the tubercle bacilli killed by prolonged boiling and freed from any material elaborated by them during their growth on the artificial culture media, so far as such substances are soluble in the culture media, or in water, or in fifty-per-cent. glycerin. That is to say, we wished in these experiments to learn whether the dead bodies of the tubercle bacilli alone, apart from any of their elimination or soluble metabolic products, produced changes in the body cells of living rabbits, and, if so, of what kind.

Technique.—We cultivated the tubercle bacillus for this purpose on peptone agar with six-per-cent. glycerin, and in glycerin-peptone bouillon. In all cases we continued the growth until it became voluminous, and we obtained identical results whether the cultures were two months or six months old, and whether they were made in bouillon or on agar. We have used cultures of tubercle bacilli derived from three different sources.

The solid masses of culture were scraped carefully off from the agar, or filtered from the culture-bouillon. In some cases we were not particular to remove from the cultures what culture-bouillon clung to the germ masses. But in most of the experiments the masses of bacilli were washed with sterilized distilled water, and then boiled in a small amount of sterilized water for from an hour and a half to four hours. In still another set of experiments we first carefully washed the culture masses, and then boiled them for from two to four hours in fifty-per-cent. glycerin with water, and then filtered off the fluid, washing the germ masses before making an emulsion with pure water for injection.

We have found that the condensation fluid in glycerin-agar cultures and also the glycerin bouillon in which the tubercle bacilli had grown, when dropped into strong alcohol, gives a white precipitate, which, according to the studies of Koch (10) and Hueppe and Scholl (11), contains the active principles of Koch's tuberculin. We furthermore found that after the glycerin-agar condensation water or the glycerin bouillon in which the tubercle bacilli are grown has been carefully washed out of the culture masses of bacilli, no more of this tuberculin-containing material is extracted from the bacilli by either water or fifty-per-cent. glycerin, even after boiling for four hours. It would thus appear that the active substance in Koch's "lymph" is a material elaborated by the life processes of these germs and set free in the culture media, as shown by Hueppe and Scholl (3).

After steaming the bacilli for from an hour and a half to four hours in the steam sterilizer, and separating them from their metabolic products in the manner described, we have made an emulsion of the bacilli in sterilized water which we have used in our experiments. In a few cases we have boiled the bacilli together with a small amount of the culture fluids containing their metabolic products, but the results of these experiments have been the same as when we have carefully separated them.

We find that after prolonged boiling, either in water or in fifty-per-cent. glycerin, while many of the bacilli present the usual bizarre broken granular involution and degeneration forms so often described, most of them preserve their form intact, and are stained in the usual way by the Koch-Ehrlich method. The broken granular forms are readily stained.

We have, by a series of separate experiments, proved that the tubercle bacilli are certainly killed by the prolonged steaming to which they have been subjected, of from an hour and a half to four hours.

As this is, of course, a point of vital importance in our experiments, we have been very careful about this preliminary sterilizing. We have used the Arnold steam sterilizer, which is one of the most efficient forms of laboratory sterilizers known to us. The material to be killed has been invariably placed in small, thin-walled flasks, exposed to the full action of live steam. The duration of the steaming was, of course, carefully reckoned from the time when the chamber of the steamer and its contents was at the full boiling temperature. While we have found in a series of preliminary experiments that an hour and a half's steaming sufficed to kill the cultures, as, from what we know of the vulnerability of these germs, it should, in all except one set of experiments, we continued the steaming from two to four hours, the average time being about two hours and a half.

The masses of tubercle bacilli thus steamed have been proved to be dead, first, by their failure to grow on favorable culture media; and, second, by the much more delicate test of repeated inoculations in guinea-pigs, which invariably gave negative results so far as the development of tuberculosis is concerned. Finally, we have inoculated guinea-pigs with materials from the lesions about to be described as induced in rabbits by the dead cultures, and obtained in the guinea-pig only negative results.

In these ways we have satisfied ourselves that the material which we were using contained in every case no living tubercle bacilli, but only their dead bodies.

EXPERIMENTS. — *Subcutaneous Injections.* — We first made a series of injections of the emulsion of the sterilized tubercle bacilli in rabbits beneath the skin and found that in a considerable proportion of cases a small local abscess is developed in from two to six weeks. This abscess, sometimes firmly encapsulated with fibrous tissue, contains pus cells, granular detritus, and many readily stained and well-formed tubercle bacilli, together with involution forms. This pus, as above indicated, on inoculation into that most susceptible animal, the guinea-pig, gave negative results; no tuberculosis developed, which was to be expected if the cultures of the tubercle bacilli used for inoculation had been readily sterilized. We have further made cultures of this pus with a view of determining whether this suppuration might not be due to some of the ordinary pyogenic bacteria, but the results were negative. We thus find, in consonance with the results of Koch, and of Hueppe and Scholl, that dead tubercle bacilli are, under certain conditions, markedly pyogenic.

We have tested the chemotactic powers of sterilized cultures of the tubercle bacillus introduced in tubes beneath the skin of rabbits, in the manner described in our first article, and found in every case after six days a plug of leucocytes extending deep into the broken end of the tube. We have introduced the dead cultures beneath the skin of rabbits inclosed between the laminæ of Ziegler's plates. In from three to five days the capillary space was found crammed with leucocytes. The dead tubercle bacillus thus possesses marked positive chemotactic powers.

Peritoneal and Pleural Injections.—We next made injections of the emulsion of dead tubercle bacilli in considerable quantities (2 to 3 c. c. of a milky emulsion) into the peritoneal and pleural cavities—in four animals into the peritoneal cavity; in two, into the pleural cavity. We obtained one positive result in each set of injections. The others were all negative.

In the positive cases, whose results were similar in both the pleura and peritonæum, we found several larger and smaller white nodules adherent to the serous surfaces. These consisted of a central soft creamy mass, made up largely of pus cells with cell fragments and granular detritus intermingled with large and smaller clusters of readily stained and well-formed tubercle bacilli. While the nuclei of some of the pus cells were not readily stained by hematoxylin, there seemed to be no evidence of well-marked coagulation necrosis in the cells except when very large masses of the dead bacilli were introduced. This central pus mass was in all cases closely surrounded and inclosed by a wall of fibrous tissue, in the inner layer of which were numerous larger and smaller masses of epithelial cells intermingled with giant cells. Some of these epithelial and giant cell islets were irregular in shape and diffuse in outline. Others were sharply circumscribed and rounded, and presented the general appearances of miliary tubercles. Tubercle bacilli were everywhere abundant in these epithelial cell masses, and nowhere else in the fibrous wall of the nodules. Well-marked cheesy degeneration was nowhere seen in these cell masses which resemble tubercle tissue, even when the animal remained alive for four weeks after the injection.

We thus see that the injection of dead cultures of the tubercle bacilli is capable of occasionally inducing in the pleural and peritoneal cavity of the rabbit a suppurative focus and the formation about it of a tissue morphologically similar to tubercle tissue.

While these results are interesting, we should not forget that a great variety of substances, organized and unorganized, on introduction into the serous cavities, as well as beneath the skin, are capable of stimulating the cells of the part to the production of a new tissue which in many respects closely resembles in its morphological characters the tissue induced by living tubercle bacilli. The new tissue growths formed under these conditions have been the subject of the most extended research in times gone by. And every pathologist who lived through the epoch immediately preceding the discovery of the tubercle bacillus knows to what fallacious conclusions experimental studies on the introduction of foreign bodies into animals led many an observer, owing to the unwarrantable stress which was laid upon epithelioid cell tissue and giant cells, in determining the morphology of tubercle.

We have therefore left this line of experiment here and turned our attention to a form of experiment which seemed to promise a more direct insight into the detailed effects of dead tubercle bacilli upon living animal cells. This was the injection of the dead germs directly into the blood-vessels of the rabbit through the ear veins.

The leading idea in these experiments was to introduce into the body the dead bacilli under such conditions that their effects upon individual cells could, if possible, be determined.

Intravenous Injections.—We have used in these experiments the sterile emulsions of tubercle bacilli described above, and have injected them in moderate quantity, aiming to introduce into each animal an amount of the material which would correspond to a spheroidal mass of the solid culture of from about one to two millimetres in diameter, diffused in about two cubic centimetres of water. In order to avoid gross vascular disturbance, it is important to break up as much as is practicable the flocculent masses of the tubercle bacilli with a platinum needle before injecting them. The animals bear this injection into the blood perfectly well, and we have in our series of experiments in this way rarely observed that their general health was in any way impaired up to the third week, when a small proportion of the animals have died emaciated (five out of twenty-four). The animals were killed at intervals from the first day to the second month, as follows: 1st, 2d, 5th, 8th, 10th, 17th, 18th, 21st, 22d, 25th, 26th, 27th, 28th, 32d, ?4th, 35th, 48th, 60th day. The organs carefully hardened in strong alcohol, the lungs being filled through the trachea. Some of the sections were stained in the usual way with hematoxylin and eosin, while others were stained for tubercle bacilli. We have experimented in this way upon twenty-four rabbits.

We deem it best to give a summarized statement of our results, rather than a detailed account of the individual experiments, because the effects of the dead bacilli vary considerably, depending upon the amount introduced and the size and vigor of the animal, and in many other less well-defined ways.

If the animal is killed within twenty-four hours after the injection of a moderate amount of dead tubercle bacilli, the organs hardened in alcohol, and sections finally stained for tubercle bacilli, it will be found that the bacilli are present in by far the largest numbers, and in the largest masses in the capillaries of the lungs. They are next most abundant in the capillaries of the liver, and may be found in small numbers in the spleen.

After the first three or four days we have been unable to find bacilli in the spleen, but they appear to continue in approximately the same numbers in the lungs and liver as at first. We have made no examinations of the other viscera with a view of determining the presence or distribution of the bacilli in them.

We need only refer here to the experiments of Wyssokowicz (12) and others on the rapid disappearance of micro-organisms injected into the blood.*

Examinations of sections of the organs of animals killed during the first and second week after the injection usually show that while the bacilli have largely disappeared from all the viscera, except the lungs and liver, they may still be found scattered singly or in small clusters in the smaller blood-vessels of these organs. Their situation can usually be best made out in the capillaries of the liver. Here they may be lying apparently free against the wall of the vessel, or they seem often to be surrounded by a small quantity of a nearly homogeneous or finely granular material which may be fibrin or blood plates, or, finally, they may lie singly or in small masses inclosed in variously shaped cells.

---

* The use of masses of dead tubercle bacilli in the study of multiple embolism would suggest itself as a mode of experimentation on this subject, since the differential staining enables us to locate the seat of lodgment of the emboli with much greater accuracy than is possible when small quantities of ordinary insoluble pigments are used.

The earliest, and throughout the experiments the most constant, lesion which we have found as the result of the venous injection of dead tubercle bacilli is the development in the lungs of from one or two to innumerable small white nodules, some invisible to the naked eye, some as large as two or three millimetres in diameter. These small nodules may appear as early as the fifth day after the injection, and persist up to the end of the second month. In the earliest days they consist of a central denser mass made up of epithelioid and giant cells, interspersed with and often surrounded by masses of small spheroidal cells resembling leucocytes.

Readily stained tubercle bacilli are present often in large numbers in these lung nodules, especially in and among the epithelioid and giant cells. Such a nodule with its bacilli stained is represented in Fig. 1.

A limited area of lung tissue is replaced by these nodules, and the air-vesicles about them show an increase in the epitheliod cells, which sometimes completely fill them.

In animals killed at a later period these nodules are, as a rule, denser in texture, and consist largely of epithelioid cells and loose fibrous tissue (Fig. 2). Tubercle bacilli are now, as a rule, present in very small numbers.

These scattered nodules in the lungs are the only lesions which we have found up to the third week; no changes whatsoever having been found in any of the other viscera before this time.

Animals killed in from three to five weeks almost invariably show a considerable number, often a very large number, of the above-described white nodules in the lungs, so that they look like lungs in acute miliary tuberculosis. These nodules of new-formed tissue are usually much more easily seen after the lungs have been distended with alcohol and hardened than before. In many cases animals show no other gross lesions whatsoever, either in the kidney, spleen, or liver.

But if a microscopical examination of the liver is made, it will be found that in a considerable proportion of cases, as early as the third week after the injection, swollen endothelial cells are found in many of the capillaries, and scattered, often very numerous, islets of new-formed cells ramify in spreading clusters in the capillaries or form very minute circumscribed masses, often consisting of but three or four cells with large nuclei and faintly granular bodies (Fig. 3). Sections showing these lesions and stained for tubercle bacilli show almost invariably one or more bacilli in these tiny new-formed cell masses. But free bacilli or bacilli inclosed in single cells are rarely to be found in the vessels, as they are in the first fortnight after the injections.

In most of the animals killed in from four to six weeks, in addition to the above described nodules in the lungs, the liver was more or less thickly bestrewn with minute whitish spots having the gross appearance of miliary tubercles. Microscopical examination of these livers shows that, in addition to these macroscopical lesions, there are microscopical lesions of similar character.

The simplest alteration that is found at these later periods consists in a proliferation of cells within the capillaries of the liver, so that these are moderately and diffusely dilated in places, or distended, so as to contain branching nodules of epithelioid cells (see Fig. 4). It seems to us that these new cells in the capillaries are in part at least derived from the vascular endothelium (see Fig. 5).

Sometimes associated with this diffuse growth of new cells in the capillaries, sometimes without it, the whole liver is thickly sprinkled with minute, sharply circumscribed, rounded nodules. Some of these nodules consist of epithelioid cells in part sharply outlined, but in part merging into one another and intermingled with or surrounded by a zone of small spheroidal cells (Fig. 6).

Many of the small nodules, on the other hand, consist almost exclusively of small masses of epithelioid cells, either merged together as in Fig. 7, or loosely packed and distinct as in Fig. 8. Again, the nodules sometimes consist of a single small mass of epithelioid and giant cells, as in Fig. 9.

Finally, the liver nodules may be more complex in structure and consist of a cluster of larger and smaller epithelioid and giant-cell masses, as in Fig. 10. We have seen no evidence of proliferative changes in the liver cells; but these are sometimes squeezed and flattened by the growing nodules. So numerous are these small foci of cell proliferation that not infrequently from two to ten of them may be found within the area of a section of a single liver acinus. They are usually situated within the acinus, more rarely in the interlobular connective tissue.

In a large proportion of these liver nodules a varying number of tubercle bacilli can be found (Figs. 3, 7, 9, 10). But these become less and less abundant as time goes on after the injection, so that after from a month to six weeks we have found but a few scattered bacilli in most of the nodules, and in a considerable proportion none at all. The bacilli do not appear to bear any special relation to the giant cells, as they so often do in genuine miliary tubercles. They are often considerably broken and granular.

It is most noteworthy in this connection that the tubercle bacilli are much more abundant, as a rule, before and during the early stages of the growth of these cell masses than they are when these have assumed the more distinctly tubercular type. We have found no lesions whatsoever in any of the animals, in the kidneys, and the tubercle-like masses but rarely in the spleen.

Our observations on the later stages of these new tissue growths are not yet complete enough to enable us to state what becomes of them when the animals are allowed to live. Up to the end of the seventh week we have seen no evidence of cheesy degeneration even in the largest and most complex of the nodules. It is perhaps owing to the lack of cheesy degeneration that the tubercle-like bodies are often first revealed by the microscopical examination.

We do not mean to draw fast lines in assigning definite periods at which these various lesions occur after injection of the dead bacilli, but only to indicate in a general way the averages of our experiments.

We have never seen the slightest indication of the proliferation of the tubercle bacilli in the tissues of any of the injected animals.

The introduction of the dead tubercle bacilli in larger quantity and in as large masses as can be used without killing the animals by multiple embolism leads to some strikingly different results from those which we have described; but this series of experiments is not yet completed and need not be further considered here.

Summary.—We have found that prolonged boiling, while often causing a considerable breaking up of the tubercle bacillus, does not interfere with its characteristic staining and does not alter the morphology of many of the individuals of a culture; so that bacilli killed in this way and introduced into the body can be readily recognized at their seat of lodgment, even after the lapse of many weeks.

Our experiments have shown that dead tubercle bacilli separated from such of their metabolic products as are set free in the culture media or are extracted by prolonged boiling in water or fifty-per-cent. glycerin are capable of inducing marked effects upon the body cells of the rabbit with which they are brought in contact.

These dead tubercle bacilli are markedly chemotactic. When introduced in considerable amount into the subcutaneous tissue or into the pleural or abdominal cavities, they are distinctly pyogenic, causing aseptic localized suppuration. Under these conditions they are capable, moreover, of stimulating the tissues about the suppurative foci to the development of a new tissue closely resembling the diffuse tubercle tissue induced by the living germs.

We have found that dead tubercle bacilli introduced in small numbers into the blood-vessels of the rabbit largely disappear within a few hours or days, but that scattering individuals and clusters may remain here and there in the lungs and liver, clinging to the vessel walls for many days without inducing any marked changes in the latter. After a time, however, earliest in the lung; later, as a rule, in the liver; a cell proliferation occurs in the vicinity of these dead germs which leads to the formation of new multiple nodular structures bearing a striking morphological resemblance to miliary tubercles. There is in them, however, no tendency to cheesy degeneration and no evidence of proliferation of the bacilli, but rather a steady diminution in their number. It seems to us that the new structures originate in a proliferation of the vascular endothelium under the stimulus of the dead and disintegrating germs.

Control Experiments.—It will no doubt appear to others, as it did at first to ourselves, as if there must have been some experimental error in the attempts to kill the bacilli, so singular are the results that we have obtained. But we think that the treatment to which the bacilli used in these experiments have been subjected, together with the tests of death to which we have exposed them, make it evident that we have actually used dead germs for our injections.

This would appear certain, not only from the tests which we have detailed above, but also from the fact that we have made fresh boilings for each set of experiments (twelve in number), and in most cases have prolonged the boiling for from one to three hours beyond the period which has been established as fatal to these germs. It should be remembered that, according to the researches of Schill and Fischer (13), the action of moist heat at 100° C. for fifteen minutes suffices to kill tubercle bacilli.

The question now arises whether these curious effects of dead tubercle bacilli upon the living tissues of the rabbit are due to some special peculiarity of the bodies of these particular germs, or may be induced by other dead germs or other substances introduced in the same way.

To satisfy ourselves on this point, we have made a series of intravenous injections in approximately similar amounts of boiled cultures of the *Bacillus diphtheriæ* of Loeffler (six animals); of the *Bacillus coli communis* (five animals); of the *Staphylococcus pyogenes aureus* (six animals); of wheat flour (two animals); and of red pepper (two animals). These substances have been introduced aseptically. The details of these control experiments need not be given here, since in none of them were there any alterations in any way comparable to those so nearly uniformly induced by the dead tubercle bacilli, and in most of them there was no reaction or change at all.

The animals under experiment were strictly isolated and kept under favorable hygienic conditions, so that the possibility of a chance tuberculosis is largely barred out.

We must therefore conclude that the lesions caused by the introduction of dead tubercle bacilli into the body of rabbits are due to some peculiar property of the bodies of this species of germ.

Remarks.—Two possibilities, at least, exist as to this peculiar power of these dead tubercle bacilli. It may, of course, possibly be due to some trace of poison elaborated in the germ cell during its life and not given up in the culture medium, or extracted by boiling in water or dilute glycerin. Or, which seems more probable to us, in view of the peculiar properties which the bacterio-protein of other species of germs has been recently shown to possess, the remarkable power of these dead germs may be due to the specific proteid of the germ cells, which is gradually set free as the germs disintegrate at their seat of lodgment in the tissues.

Though we have made repeated attempts to isolate the bacterio-protein from the tubercle bacilli by the method of Necki, neither with this nor with any other method have we succeeded.

It seems to us highly probable that the bacterio-protein of the tubercle bacillus, either living or dead, when set free by disintegration in the tissues, is capable of furnishing that local cell stimulus which results in the formation of the various phases of those structures which we call tubercles and tubercle tissue. The slow growth of these structures would correspond to the exceptional structural invulnerability of the tubercle bacillus.

These structures, which, as we have shown, we can induce at will in the rabbit by the injection of dead tubercle bacilli into the blood-vessels, are morphologically absolutely typical of certain phases of miliary tubercles, even to the presence of stainable tubercle bacilli in them. Miliary tubercles these structures are, but—and this is of vital importance—the animals do not acquire tuberculosis. It is not an acute infectious disease which we thus impart; there are no living germs to grow. The disease, if it is a disease, is not indefinitely progressive. The dead bacilli seem to act as foreign bodies simply, curiously stimulating, it is true, but only dead foreign bodies after all.

There is no tendency that we can observe in these tiny nodules to cheesy degeneration.

So far as we can see at present, when the limited amount of stimulant or poison, proteid or other, which they contained when we put them into the animal, is used up, the active process is over, and it rests with the recuperative powers of the animal to make what disposal they can of the local ravages which have been caused.

The drawings of the liver of rabbits injected through the veins with *living* tubercle bacilli by Yersin (14) show at a glance the essential difference between the genuine miliary tubercle of tuberculous rabbits and the non-infectious aseptic tubercles of our experiments—namely, the actively proliferating tubercle bacilli which make the lesion in the first case a progressive one, and which, sooner or later, cause the death of the animal.

These studies would suggest the possibility that the formative tissue changes which are characteristic of tuberculosis in man may be largely due to the action of the bacterio-protein of the tubercle bacillus set free as the germs die and disintegrate in the tissues, while, on the other hand, the equally important and in some ways more characteristic action of the germ—namely, the coagulation necrosis, and possibly some of the vascular changes and other poisonous effects—may be chiefly induced by those freed metabolic products of the life processes of the germ which the experiments of Koch have recently brought to light, or to others as yet unknown.

We resist the temptation to elaborate here the many fascinating possibilities which these studies suggest as to the *rationale* of tubercular inflammation in man, and the closer analysis of its lesions which may be possible in the future.

If the results of our experiments are confirmed by others, it is evident that our conception of the significance of the various lesions of tuberculosis may be considerably modified and the therapeutic possibilities made essentially clearer. It will be quite comprehensible why so many well-defined miliary tubercles, so many masses of tubercle tissue, so many destructive lesions of chronic phthisis, and so many so-called scrofulous and tubercular lymph nodes fail to show the presence of tubercle bacilli if it is established that the morphological characteristics of these structures are dependent upon the disintegration of the bacilli which once found lodgment where they form.

We are aware of the danger of drawing far-reaching inferences from a single series of experiments. But we think that we are fairly justified, from the experimental data now set forth, in the conjecture that we may have here the explanation of the comparatively slow growth of tubercle and tubercle tissue which is observed under a variety of conditions.

One may conjecture, too, whether a certain number of the miliary tubercles which we find in the body after a generalization of the tubercular process from an old tubercular focus may not actually be innocuous growths, or at least harmful only as foreign bodies in the tissues where they develop.

The possibility would, furthermore, suggest itself that those dense masses of fibrous tissue in the lungs which we usually regard as evidence of healed tuberculosis may actually be innocuous, even though they harbor stainable tubercle bacilli, and no longer capable of lighting up a fresh infection, as is commonly supposed.

One may legitimately query, too, whether in the closer analysis of the tubercular processes in the future we may not find that the formation of the new tissue, the development of the tubercles themselves, is, after all, an attempt at a conservative process on the part of the organism incited by the stimulus of the disintegrating bodies of some of the germs. It may be, too, that, as Hueppe suggests, the conservative attempt is often rendered futile by a destructive tendency—cheesy degeneration—developed under the influence of a metabolic product of the living and growing germs which the tubercular foci still harbor. The bearing of this possibility upon the administration of large doses of Koch's tuberculin should not, perhaps, be wholly ignored even at this stage of our knowledge.

It is somewhat curious to notice how closely in accord with some of our experimental results are many of the features of Hueppe's (15) recent essay to develop a rational explanation on theoretical grounds of the varied phases of the development of tubercles and tuberculosis.

We wish, in conclusion, to call renewed attention to the fact, too often overlooked, that the acute infectious diseases are much more complex, both in their lesions and their ætiology, than we are wont to realize. We were formerly perforce content when we had done what we could to make plain the morphology of their obvious lesions. Light dawned at last on the relationship of bacteria to some of these diseases, and the definite establishment of the constant and inevitable relationship between some specific germ and its special disease was at first so satisfying that this relationship alone was regarded as a solution of its ætiology.

But the restless seeker after detail was not long content with this, and new light was speedily forthcoming as to the important rôle which chemical poisons, elaborated by pathogenic germs, had to play in the induction of the varied phenomena of this class of diseases. We have seen that a new phase of our knowledge is being now developed in the study of the proteid ingredients of the germ bodies.

But beyond all these lines of study and essential to their full fruition is the development of a fuller comprehension of the powers and reactions and idiosyncrasies of the body-cells themselves, upon whose comportment in the last analysis depend the distinctive features and the ultimate significance of the acute infectious diseases.

Thus the harvest garnered in this newly opened field of thought and research must ultimately be brought home to the old storehouse of pathological anatomy and physiology before it can be made in the fullest degree available for the understanding and curtailment of bacterial disease.

1. Prudden. *New York Medical Journal*, June 6, 1891.
2. Hammerschlag. Rev., *Ctrlbl. f. Bacteriologie*, etc., March 2, 1891, p. 272.
3. Hueppe and Scholl. *Berlin. klin. Wochenschr.*, 1891, Jan. 26, Feb. 23, March 16, March 23.
4. Trudeau. *Medical Record*, Nov. 22, 1890.
5. Zulzer. *Berlin. klin. Wochenschr.*, 1890, No. 4.
6. Crookshank. *Lancet*, Feb. 27, 1891, p. 300.
7. Weyl. *Deutsch. med. Wochenschr.*, Feb. 12, 1891, p. 256.
8. Maffucci. *Ctrlbl. f. allg. Path.*, etc., Dec. 15, 1890.
9. Wyssokowicz. *Mitth. a. Dr. Bremer's Heilanstalt, u.s.w., neue Folge*, 1890.
10. Koch. Reprint, *Medical Record*, Jan. 17, 1891, p. 85.
11. Hueppe and Scholl. *Berlin. klin. Wochenschrift*, Jan. 26, 1891, p. 89.
12. Wyssokowicz. *Zeitschrift für Hygiene*, Bd. i, p. 3.
13. Schill and Fischer. *Mitth. a. d. kaiserl. Gesundheitsamte*, Bd. ii.
14. Yersin. *Annales de l'Institut Pasteur*, 1888, p. 140.
15. Hueppe. *Berlin. klin. Wochenschr.*, March 23, 1891.

A CLINICAL REPORT OF OPERATIVE SURGERY IN THE SERVICE OF DR. WILLIAM T. BULL,

AT THE NEW YORK HOSPITAL,

During October and November, 1889, and from February to June, 1890.

By WILLIAM B. COLEY, M. D.,
LATE HOUSE SURGEON.

(Continued from page 621.)

OPERATIONS UPON THE HEAD, FACE, AND NECK.

SEVENTY-FIVE CASES.

		Recovered.	Died.
(*a*) Operations upon the Head:			
Compound depressed fracture of skull.	2	2	..
Congenital elephantiasis of scalp and face....	1	1	..
For epileptoid convulsions, dependent on old fracture of skull (two operations)	1	1	1
(*b*) Operations upon the Face:			
(1) Neoplasms	14	14	..
Carcinoma of tongue..................	3	3	..
" " lip..............................	7	7	..
Recurrent fibromata of ears	1	1	..
Pachydermatocele of face, congenital (two	1	1	..
operations)...........................	1	1	..
Angeioma of submaxillary gland.........	1	1	..
Myxo-sarcoma of parotid gland.	1	1	..
(2) Deformities.			
For hare-lip.	3	3	..
" " single.........................	1	1	..
" " double complicated..........	2	2	..
Plastic, for cicatricial contraction of neck..	1	1	..
" " deformity of nose............	3	3	..
Plastic, for syphilitic perforation of hard palate..............................	1	1	..
Plastic, for ectropion..................	2	2	..
c) Operations upon the Neck:			
Tumors of the thyreoid..................	3	3	..
Tubercular lymphadenoma	5	5	..
Lipoma	1	1	..
d) Miscellaneous........................ ..	7	7	..

OPERATIONS UPON THE HEAD.

(*a*) *For Traumatism.*—Although the number of cases here reported is small, they all go to swell the evidence that has been collected during the past ten years in favor of the *early* use of the trephine in *all* cases of depressed fracture of the skull. Surgical authority upon this important question has varied greatly during the past century. While in the early part of the century the pendulum swung so far in the direction of "active interference" that many of the best surgeons believed that trephining was absolutely necessary in cases of simple undepressed fracture to prevent consequent intracranial inflammation, in less than fifty years the reaction was so great that the operation became almost unknown in many of the larger hospitals, and in 1867 it had not been performed at St. Bartholomew's for six years. It gradually became more and more an operation which was resorted to only in the most severe and often hopeless cases, and the resulting high mortality told more and more against its general adoption. It has been only recently that the operation has again come into prominence, and even now many surgeons would refrain from operating unless pronounced brain symptoms were present. The three cases here presented illustrate the two methods of treatment. In two cases immediate operation was performed and prompt recovery followed. In the remaining case there had been a compound depressed fracture six years and a half before. There being no marked brain symptoms, no operation was performed. Epileptoid convulsions soon developed and continued at short intervals until death, which followed an attempt to remove the cause of the convulsions—viz., a cyst dependent upon an old intracranial inflammation. The early operation is performed with ease and comparative safety, provided aseptic precautions are carefully observed, while the late operation, aside from being vastly more difficult to perform and more dangerous to life, furnishes but a small prospect of relieving the patient.

Although Bryant (*Practice of Surgery*, p. 185) gives the mortality of the operation at Guy's Hospital as 76 per cent. in 51 operations during a period of seven years, this should by no means be considered a proper estimate of the seriousness of the operation. At that time only in the worst cases were the patients trephined, and, as many of them probably had extensive laceration of brain tissue, the mortality was necessarily high. On the other hand, Dr. Stimson collected 13 cases of operations done in a single year (1880–'81) at Bellevue Hospital. Ruling out a gunshot fracture (with the bullet buried in the brain) and a second case where the fracture was not discovered until an abscess of the brain had formed, there remain 11 cases, nine of which recovered. This gives a mortality of only 18 per cent. In seven of the cases collected by Dr. Stimson there were no brain symptoms beyond stunning. All of these seven patients recovered.

In addition to the cases here reported, I recently operated upon a man at Port Jervis, who walked into the office with a small scalp wound in the anterior right parietal region. He had been working in a quarry, and a small stone had fallen from above, striking him upon the head. He was slightly stunned at first, but soon recovered and had absolutely no symptoms when I saw him. A careful examination showed a small punctate fracture with an area about three eighths of an inch in diameter slightly depressed. On removing a button of bone (half-inch trephine) and slightly enlarging the opening with bone forceps, there was found a fracture of the inner table much more extensive than of the outer, and the depression was much more marked. Here was a condition that would almost certainly have caused subsequent trouble had no operation been performed, and yet symptoms were absent. Recovery was prompt, the wound healing by primary union, and at the end of ten days he resumed his work.

(*a*) HEAD. CASE I. *Compound Depressed Fracture of the Skull; Trephining; Recovery.*—C. W., male, thirty-eight, colored, waiter. Admitted March 30, 1890, two hours after having been struck on the head with a heavy water-pitcher. He was conscious on admission, but soon became comatose. There was a scalp wound just to the right of median line and an inch behind the edge of the hair, and at its bottom a "gutter-shaped" fracture an inch and a half long by three quarters of an inch wide, with depression of a quarter of an inch in the center. Under ether the wound was enlarged, a button of bone an inch in diameter removed, and the opening enlarged with rongeur forceps by Dr. Coley. Suture with horsehair drain, which was removed on the third day. Primary union without fever. Discharged on the eleventh day.

CASE II. *Compound Fracture of the Skull, with Subdural Hæmorrhage; Trephining and Removal of Clot; Recovery. (Complicated with Transverse Fracture of the Astragalus.)*—P. D., nineteen, male, brought by ambulance immediately after falling one story and striking on head, May 2, 1890. There was a lacerated and contused scalp wound an inch long in right frontal and parietal region, with longitudinal fracture, one edge slightly depressed. He was delirious, with frequent well-marked left unilateral convulsive movements, with increasing unconsciousness. Two hours after the injury, trephining under ether was performed by Dr. Coley, through a curved incision three inches and a half in length. After removal of a button (half an inch in diameter) and enlarging opening upward and backward with bone forceps, the dura mater was found more bulging than normal, and a hypodermic-syringe puncture drew fluid blood. Incision (one inch) through dura mater evacuated a small clot and some fluid blood, cortex of brain not being injured. The dura was sutured with fine catgut, the scalp wound closed with same. A horse-hair drain was used and removed the fourth day. Primary union; no fever. For several days there was delirium and semicoma, which gradually disappeared, and recovery was complete at the end of one month. The fracture of the astragalus was kept in gypsum splint for three weeks. It could not be perfectly reduced, there being slight projection forward and inward, with inversion of the foot and stiffness of the ankle. He is now, one year after the operation, perfectly well, but a trifle lame from the fracture of the astralagus.

CASE III. *Traumatic Epilepsy from Fracture of the Skull; Trephining and Incision of Old Meningeal Hæmatocele; Relapse; Excision of Portion of Cortex of Brain One Month Later; Death from Hæmorrhage and Encephalitis.*—F. K., twenty-one, male, admitted March 17, 1890. He had been well until six years and a half ago, when he received a blow from a stone upon the right side of the head, causing a compound depressed fracture. No operation was performed, and the wound healed promptly. Shortly after the injury, however, left unilateral convulsions developed, involving muscles of neck, arm, and lower extremity. These attacks recurred at short intervals, usually from ten to fourteen days, and during the attacks consciousness was generally lost. His general health remained good, and his mental condition was but slightly affected. Examination at the time of entrance showed paralysis of the left depressor anguli oris, with some weakness of the risorius. The tendon reflexes were normal, and there was no defect in gait. Ophthalmic examination was negative. In the middle of right parietal region there was a cicatrix three inches and a half in length, with slight apparently bony depression just beneath it.

Operation, March 22, 1890.—Ether. A curved incision four inches in length revealed a space $\frac{1}{8} \times \frac{3}{8}$ of an inch at center of cicatrix where the bone was absent, the dura mater and pericranium coalescing. A small puncture was followed by the escape of a clear straw-colored fluid. A one-inch trephine was then applied to the depressed area, and the opening subsequently enlarged with bone forceps. A cyst three quarters of an inch in diameter was found. The contents were removed and the wound packed with iodoform gauze.

The wound healed quickly by granulation. Ten days after the operation a slight convulsion occurred, and the following day a very severe one, accompanied by rapid pulse. Temperature 103° F., and deep coma lasting half an hour.

It was decided to operate again, and, if possible, remove the cyst wall. The second operation was performed on April 24th, four weeks after the first. The skull opening was enlarged, the recent granulations scraped away, and the cyst wall, together with considerable dense cicatricial tissue, was removed, leaving a cavity in the brain about the size of a hen's egg. The hæmorrhage was very profuse and could only be controlled by a large tampon of iodoform gauze. The loss of blood was considerable, and the condition of the patient at the close of the operation was extremely critical, but improved somewhat under free stimulation. He was comatose during the night. The following day temperature rose to 103·6°, the pulse was 140, and consciousness (imperfect) returned. There was total paralysis of the left arm and leg, and this remained until death.

On the second day he again became unconscious, slight unilateral convulsions (left) developed, and became more and more frequent. His temperature rapidly rose, and death occurred forty-eight hours after the operation.

NEOPLASMS.

There are eighteen cases of neoplasm, including face and neck. These are given in tabular form, but a number deserve further mention.

CASE I. *Epithelioma of the Lip, strongly simulating Sarcoma; Recurrence.*—H. B., aged forty-five, male, admitted November 1, 1889. His family and personal history was good. He had been an habitual smoker. Two years and a half before, a small, hard swelling had appeared on the right side of lower lip. This grew very slowly until four months before admission, when it began to ulcerate and increase rapidly in size. The glands beneath jaw were swollen and tender. At the time of operation one half of the lip was removed, and the extensive wound closed by means of a large rectangular flap extending back to the angle of the jaw. (Fig. 1.)

Although the clinical history, as well as the appearance of the tumor, pointed strongly toward epithelioma, a very careful microscopic examination was made by the pathologist, and it was reported to be sarcoma. In view of the subsequent history of the case, it may be interesting to note the report in detail. "Microscopically, the tumor is composed of many spindle cells, round cells, flat cuboidal cells, and many giant cells. Bundles of spindle cells run in different directions throughout the tumor. The round cells are not to be distinguished from the young cells of inflammation. The giant cells are small and contain from three to ten nuclei. The vessels are abundant and thin-walled."

NEOPLASMS.

Age and sex.	Duration of symptoms; region.	Size of growth.	Enlarged glands.	Hered'y tendency.	Operation.	Time in hospital	Wound healing.	Pathologist's report.
1. 56 yrs., male.	1½ yr.; lower lip.	¾ inch diameter.	None.	None.	V-shaped incision; silk and silver-wire sutures. Ether.	5 d.	Primary union.	Epithelioma.
2. 45 yrs., male.	2½ yrs.; lower lip.	Half lower lip.	Glands enlarged.	"	Rectangular flap; removal of two enlarged glands. Ether.	9 d.	" "	Epithelioma, recurred in 4 mos.
3. 62 yrs., male.	Tongue.	Whole dorsum of tongue anterior.	Glands enlarged.	"	Ligature of both lingual arteries; tongue then drawn forward and cut off at base; little hæmorrhage. Ether.	21 d.	Wound healed rapidly.	Epithelioma.
4. 88 yrs., male.	3 mos.; tongue.	Right side of tongue.	Glands enlarged.	"	Ligature of right lingual artery; tongue drawn out and right half removed; hæmor. slight. Ether.	6 d.	Wound healed rapidly.	"
5. 37 yrs., male.	7 yrs.; left side nose and face.	Round ulcer, ¾ inch diameter.	None.	"	Excision and plastic. Ether.	21 d.	Healed by granulation.	"
6. 65 yrs., male.	Op. 4 yrs. prev., epith. of lip; recur. 4 mos. ago.	Angle of jaw; ulcer; 1 in. in diameter.	"	"	Excision and plastic. Cocaine.	17 d.	Primary union.	"
7. 63 yrs., male.	Op. epith. of lip, 3 mos. prev.; recur. in glands.	Small lump in submaxillary triangle.	Yes.	"	Excision. Ether. Mar. 15, 1890.	15 d.	Healed slowly.	"
8. 56 yrs., male.	Upper lip; 4 mos.	¾ × ½ inch.	None.	"	Ether. Excision.	18 d.	Salivary fistula left; closed by second operation.	"
9. 16 yrs., male.	Congenital; right side face, eyelid, scalp.	. . . .	"	"	Ether. Excision.	53 d.	. . . .	Elephantiasis.
10. 22 yrs., female.	6 yrs.; followed piercing of ears; op. 2 yrs. ago. Recurrence.	Size of chestnut; lobes of both ears.	"	"	Ether. Excision.	5 d.	Primary union.	Fibromata.
11. 63 yrs., male. (No. 7.)	Op. Mar. 15, 1890; second recur. of old cicatrix.	Small nodule; submax. reg.; old cicatrix.	"	"	Ether. Operation June 4, 1890.	8 d.	" "	Epithelioma.
12. 42 yrs., male.	27 yrs.; submaxillary region.	Size of English walnut.	"	"	Ether. Excision; closely adherent to submaxillary gland.	11 d.	Wound was packed and allowed to heal by granul'n.	Angeioma.
13. 58 yrs., male.	1 yr.; tongue.	¼ × ¾ inch.	Yes.	"	Ether. Ligature of right lingual artery and excision of right half of tongue.	17 d.	Wound healed promptly.	Epithelioma.
14. 46 yrs., male.	2½ yrs.; lip; prev. op. Nov. 3, 1889; recur. 4 mos.	Size of English walnut; submax. region.	"	"	Ether. Operation Mar. 19, 1890. Free excision, with resection of 2 in. of internal jugular vein.	12 d.	Wound healed quickly, but there was prompt recurrence.	"
15. 18 yrs., female.	5 yrs.; painful, parotid gland.	Size of English walnut.	None.	"	Ether. Tumor found attached to parotid; it was carefully dissected out.	5 d.	Perfect primary union.	Mixed tumor (fibro-myxo-sarcoma).
16. 47 yrs., female.	18 yrs.; no pain; thyreoid.	Egg.	"	"	Ether. Enucleation and removal, including major part of thyreoid.	12 d.	Primary union.	Adenoma.
17. 29 yrs., female.	7 yrs.; thyreoid.	Fist.	"	"	Ether. Superior and inferior thyreoid arteries ligated; tumor dissected out small part; thyreoid left.	20 d.	" "	Colloid goître.
18. 20 yrs., female.	15 mos; thyreoid.	Hen's egg.	"	"	Ether. Tumor encapsulated; removed; contained left lobe of thyreoid.	30 d.	" "	Angeio-sarcoma.

Second Operation, Two Months Later; Excision of Submaxillary Glands; Resection of the Internal Jugular Vein; Recovery.—The recurrence was confined to the submaxillary and deep cervical glands; owing to extensive inflammatory action, the dissection was very difficult. The facial artery and vein were cut and tied on both sides, and an enlarged gland was so closely adherent to the internal jugular vein (right side) that two inches of the vein were resected. The lower end of the excised portion was just above the edge of the clavicle. The wounds healed promptly, but a second recurrence soon followed and proved fatal three months after the operation. Microscopical examination of the material showed the disease to be unquestionably epithelioma, which had at first been so disguised by the inflammatory action that it was mistaken for sarcoma.

Congenital Elephantiasis of the Face and Scalp; Operation; Recovery.—A. P., aged sixteen years, United States, male, admitted April 12, 1890. Family history good. Patient was slightly under size, and mental development considerably below par. He had congenital hypertrophy of the face, eyelid, and scalp, confined to right side. The right eye had become diseased in early childhood and had been removed. The general aspect of face strikingly resembled that of a dog's face, and it is a curious fact that while the mother was pregnant (during the early months) she worked almost constantly for several weeks upon a "dog puzzle." He had six brothers and sisters—all well developed, both mentally and physically.

Examination showed the whole of right side of the face greatly hypertrophied and the features distorted. The hypertrophy seemed to be confined chiefly to the skin and subcutaneous tissue. The right eye was absent and the upper eyelid very greatly thickened and pendulous, reaching down to the upper border of the ala nasi. There was a well-marked, irregular depression in the region of the squamous portion of right temporal bone, and in one place a slight loss of bony substance. The upper jaw showed absence of teeth on the right side, beyond the second incisor. Over the posterior portion of the right parietal bone there was a soft, flabby tumor of the scalp about the size of a small hen's egg, freely movable, and covered with a normal growth of hair (see Fig. 2).

Operation, April 19, 1890.—Ether. An incision was made just below the border of the eyelashes of the hypertrophied lid and the skin dissected up as far as the eyebrow. The redundant portion beneath was then dissected away from the conjunctival membrane and the skin and conjunctiva sutured at lower edge with fine silk. The tumor of the scalp was then removed by means of an elliptical incision, the wound partially closed, and the remainder left to granulate. The face was left for subsequent operation. Both wounds healed promptly, and the appearance of the eyelid was greatly improved.

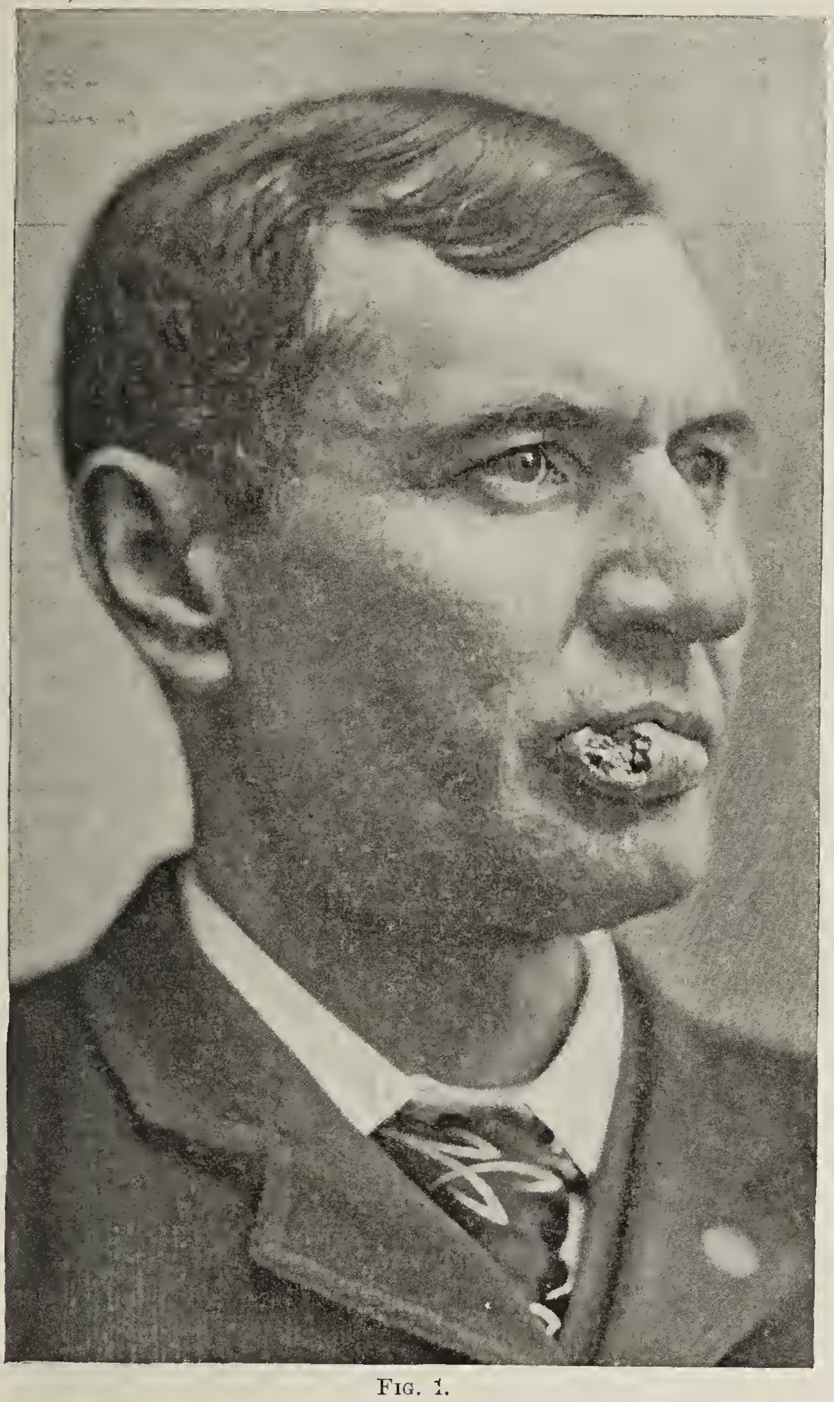


Fig. 1.

Second Operation, May 3, 1890.—Ether. An elliptical incision was made from the angle of the mouth nearly to the ear, including the larger portion of the redundant tissue (three inches at its greatest width). The incision was carried entirely through the mucous membrane into the mouth. The edges of the mucous membrane were then sutured separately with catgut and the skin with silk sutures. The bleeding was profuse but easily controlled. Extensive œdema and swelling followed the operation, but soon subsided on relieving the tension and applying wet antiseptic dressings. Wound healed slowly, and on June 4th patient left hospital markedly improved.

Angeio-sarcoma of the Thyreoid.—A. D., aged twenty, single, female, birthplace Ireland. Family history good. Admitted March 6, 1890, with the following history: General health had always been good. About fifteen months ago she first noticed a swelling of the neck. This has gradually become larger in spite of repeated injections of iodine. At time of entrance to hospital there was a mass about the size of a hen's egg situated a little to the left of the middle line of the neck and on a level with the thyreoid.

Operation, March 15, 1890.—Ether. An incision three inches long was made over the tumor and the inferior thyreoid artery found and ligated. The superior was not seen. The tumor was encapsulated, and evidently contained the left lobe of the thyreoid. It was removed with little difficulty and the bleeding was not profuse. Heavy dressing with carefully adjusted pressure pads secured perfect primary union.

Pathologist's Report.—Plexiform angeio-sarcoma.

Adenoma of the Thyreoid.—A. S., aged forty-seven years, female, birthplace France. Family history good. About eighteen years ago tumor appeared in region of the thyreoid. It gradually increased in size and at the end of two years was operated upon and partially removed. No recurrence until July, 1888, when a similar swelling appeared in the same region, which has since increased in size.

Admitted August, 1889. Examination showed a tumor of about the size of an egg situated just above the sternum not attached to trachea, nodular or rather lobulated, and the skin over it smooth and glistening.

Operation, August 31, 1889.—Ether. The tumor was found to consist of two masses, each about the size of an egg, evidently originating from the right and left lobes of the thyreoid. These were carefully enucleated and removed. The hæmorrhage was not severe. Small rubber drainage-tubes were left in until the sixth day. There was some pain and a little difficulty in swallowing, but only for a short time. The wound healed by first

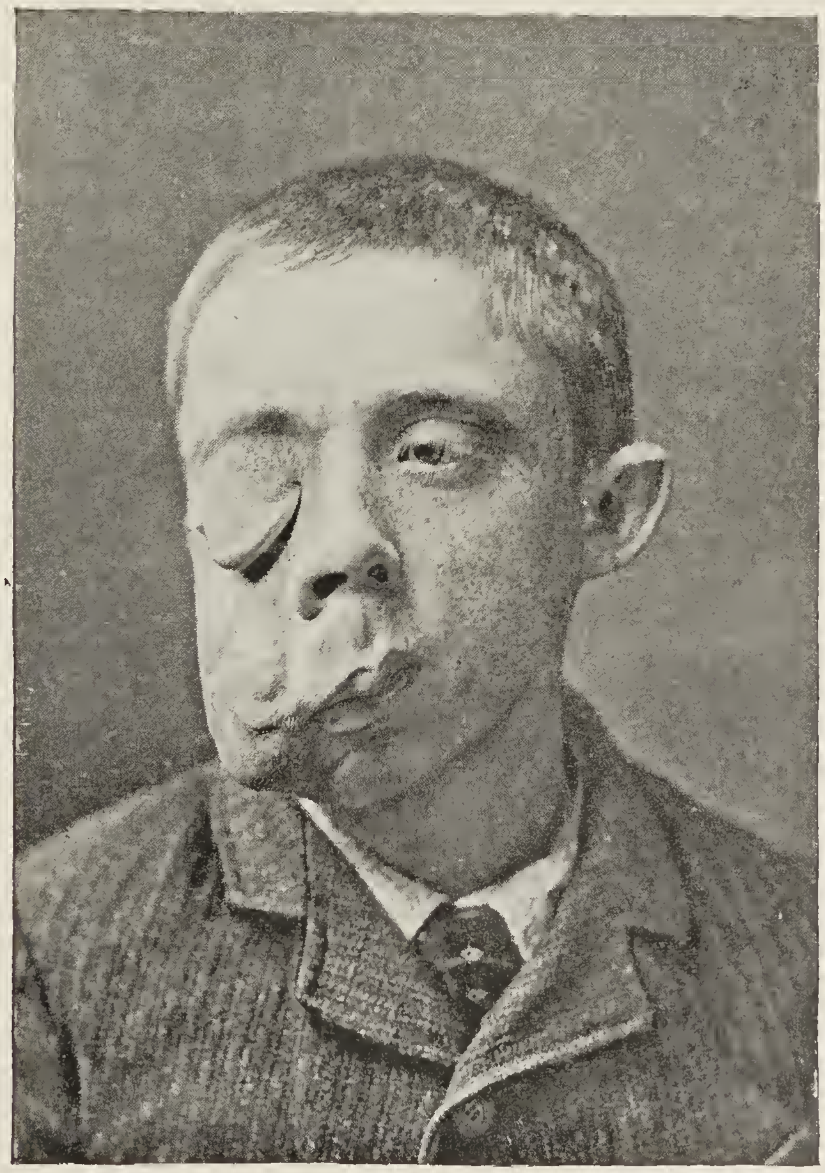


Fig. 2.

intention and patient left the hospital the twelfth day after operation.

Pathologist's Report.—Adenoma of the thyreoid gland.

Colloid Goître.—E. E., aged twenty-nine, birthplace England, single, servant. Admitted on October 24, 1889. Family history tubercular.

The patient first noticed the enlargement of the neck seven years ago. It increased very slowly in size at first, but more rapidly the last year. Troubled with headache and bulging sensation in eyes. Examination showed a mass the size of a man's fist, irregular, lobulated, and occupying the central portion of the neck anteriorly and reaching nearly to the sternum. This did not seem attached to the trachea.

Operation, October 26, 1889.—Ether. An incision two inches and a half long was made in the median line, and the superior and inferior thyreoid arteries having been found and ligated on either side, the tumor, consisting of three lobes, was then dissected out, leaving behind a portion of the central or smallest lobe. The hæmorrhage was easily controlled. A rubber drainage-tube was left in the wound, and a heavy dressing, with considerable pressure, applied. Pulse and temperature were high during the first four days (temperature, 102° to 104°), but after these soon fell to normal. The wound healed chiefly by primary union, but the tube sinus was somewhat slow in closing.

DEFORMITIES.

CASE I. *Double Congenital Hare-lip, complicated with Cleft Palate.*—A. Z., aged five months, male. Operation on October 12, 1889.

A well-marked protrusion of the intermaxillary bone added greatly to the difficulty of making a satisfactory closure of the cleft. The projecting portion of bone was removed, the edge of the cleft freshened, and the lip sufficiently freed from its attachment to allow the flaps to be brought into apposition without too great tension. Silver-wire and silk sutures were used in preference to hare-lip pins. The sutures were removed on the third day; some suppuration followed on one side, causing healing by granulation.

CASE II.—*Double Congenital Hare-lip with the same Complications as the in preceding Case.*—A. G., male, aged two months. The child was very badly nourished. The defect was so great that the child was unable to obtain a proper amount of food either from the breast or bottle, and for this reason the operation was performed earlier than it otherwise would have been. The cleft on either side extended to the nostril, and a large snout-like process projected between the clefts. The operation, though more extensive, did not differ materially from the one already described. It was, however, only partially successful, as some of the sutures cut through on one side. The child developed scarlet fever, and had to be transferred before a second operation could be performed.

CASE III. *Single Congenital Hare-lip, uncomplicated.*—Operation August 29, 1889. Pins removed on fourth day. Perfect primary union.

Deformity of the Nose.—M. M., aged twenty-two, female. The patient had a congenital deformity of the nose, consisting of an abnormally broad tip, notched in the center, giving it a slightly bifid appearance. At the first operation an incision about an inch long and a quarter of an inch deep was made in the central line, and then a thin layer of tissue removed from each side. The parts were then brought together and held in place by a silver-wire suture and lead clamps, with superficial sutures of fine silk.

The wound healed by primary union, and the improvement was very marked; but, as the tip was still a little too broad, more tissue was removed from the center at subsequent operations, almost entirely doing away with the deformity, and leaving a scarcely noticeable scar.

Plastic Operation for Ectropion (Two Cases).—W. H., aged ten years, admitted January 18, 1890. Nine years before, the patient fell upon a chair, cutting a deep gash just beneath the right eye. Examination at entrance showed the right lower eyelid markedly everted, with half an inch of conjunctiva exposed. Just below this was an old cicatrix firmly adherent to the bone, and in the center of the cicatrix was a small, round depression or sinus.

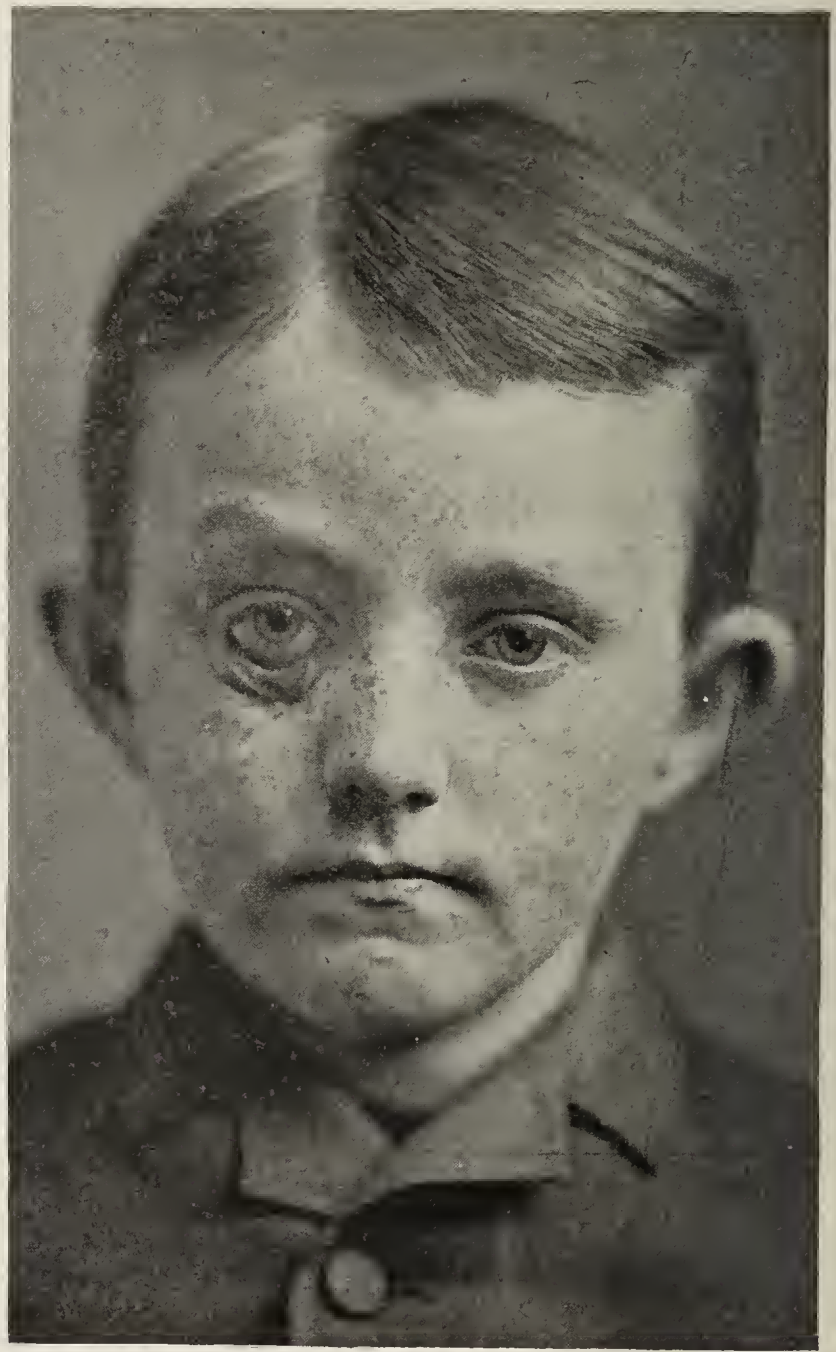


FIG. 3.

Operation, January 23, 1890.—Ether. The cicatrix was dissected up, a curved incision having first been made below the ciliary border, and the edge of the lower lid was then drawn up and held by temporary sutures in forehead. A lateral flap was then taken from the temporal region and brought down to fill the space left vacant by raising the lower lid. Horsehair drain. Result satisfactory.

Wound healed promptly by first intention, and deformity was greatly diminished.

Second case; similar operation; result less satisfactory.

A case of syphilitic perforation of soft palate; plastic operation.

One operation for cicatricial contraction of neck.

Five operations for tubercular lymphadenoma of neck.

One operation for lipoma of neck.

Seven miscellaneous cases of too little importance to be given in detail.

REMARKS ON NEOPLASMS.

An analysis of the cases shows that of the eight operations for epithelioma of the lip, five were for recurrent and three for primary disease. In the three primary cases the duration of the tumor had been four months, a year and a half, and two years and a half, respectively. In one case the new growth was situated in the *upper* lip, which is a comparatively rare occurrence. In one case of primary epithelioma of face and nose the tumor or ulcer had existed seven years.

In one of the recurrent cases the primary growth had been removed from lower lip four years before, and the patient had been free from the disease until four months previous to entering the hospital. The recurrence took place not in the usual situation—viz., the sublingual or submaxillary glands—but in the skin of the face just above the angle of the jaw, forming a characteristic epitheliomatous ulcer about an inch in diameter.

Tongue.—In two cases only half of the organ was removed, and in one the entire tongue. The method of operation adopted was the same in all the cases—the lingual artery on the corresponding side being first found and ligated, the tongue was then drawn forward and partially or entirely removed at base with scissors. Hæmorrhage was slight in all of the cases, and recovery was prompt and satisfactory, although the patient in one case was eighty-eight years of age. Heredity was absent in every case, including tumors of tongue, lip, and face, and a source of irritation—*e. g.*, pipe or sharp tooth—was found in only a small number of cases.

The age in the cases of epithelioma ranged from forty-five to eighty-eight years, the average being fifty-eight. Enlarged glands were present in only four cases.

The method of operation employed in the ordinary cases of epithelioma of the lip was by the V-shaped incision, care being taken not only to include the new growth itself, but a margin of healthy tissue one third of an inch in width.

Where the disease was extensive the rectangular flap was used in preference to the V-incision. The edges were generally secured in apposition by means of one or two silver-wire sutures or hare-lip pins supplemented with additional sutures of fine silk. The wire was usually removed at the end of forty-eight hours.

Subsequent History.—Sufficient time has not yet elapsed to enable one to determine how many permanent cures have been effected. The cases have all been followed, and, with one exception, the patients are still living. The one referred to was operated upon the first time in November, 1889, and again for extensive glandular recurrence in March, 1890. The disease again quickly recurred and proved fatal three months later.

The most complete statistics as to the after-history of epithelioma of the lip are found in Butlin's work on the operative surgery of malignant disease. Of the 424 cases that he has collected, chiefly from the German clinics of Billroth, Bruns, and Thiersch (the history of which had been followed), 160 had passed the three-year limit, showing 38 per cent. of cures.

Although the three-year limit is the one generally adopted by surgeons, the case just referred to, where recurrence took place three years and eight months after operation, shows that it is not absolutely correct.

In regard to removal of the glands, some of the German surgeons, and particularly Bruns, have recently advocated removal in all cases, whether enlarged or not. Thus far the number of cases where this method has been adopted is too small to permit any satisfactory conclusions being drawn.

In the cases here reported the glands were not interfered with unless they could be felt.

In regard to the other cases, the myxo-sarcoma of the parotid gland is sufficiently rare to deserve mention. The tumor occurred in a girl of eighteen years, and had been in existence five years previous to operation. It had reached the size of an English walnut, was encapsulated, and had always been accompanied by more or less pain. It was found at the operation to be connected with the parotid gland. The microscopic examination proved it to be a myxo-sarcoma. The case not only is interesting on account of the small number that have been reported (twenty-nine),* but it furnishes additional evidence as to the peculiar characteristics of sarcoma of this region—viz., the slow growth and comparative benignity of the disease.

Of the twenty-nine patients treated by operation, eleven have passed the three-year limit and eighteen were alive and well, with no signs of recurrence, at periods ranging from a year and a quarter to eight years after operation. Three were known to have recurrence, and the rest were lost sight of.

Tumors of the Thyreoid.—In regard to these there is little to be added to the report of the cases. The operations, or rather the results, show that extensive tumors can be removed from this region without great danger from hæmorrhage. After ligation of the superior and inferior thyreoid arteries before removing the gland the bleeding was trifling. Primary union followed in every case, but care was taken to apply the dressing with proper pressure over the region of the gland.

THE VALUE OF AUSCULTATORY PERCUSSION AS A METHOD OF DIAGNOSIS.†

By FRANK W. JACKSON, M. D.,
CHIEF OF CLINIC, MEDICAL DIVISION, COLLEGE OF PHYSICIANS AND SURGEONS, NEW YORK.

In 1840 Dr. George P. Cammann and Dr. Alonzo Clark suggested the employment of auscultatory percussion as a valuable aid to diagnosis, claiming that by this method the heart can be measured in all but its antero-posterior diameters, under most, perhaps all, circumstances of health and disease, with hardly less exactness than if the organ were exposed before us, and that the outlines of the liver, spleen, and kidney can be traced in the same way. Since only passing mention of this subject is to be found in the text-books of to-day, it is to be inferred that either the method has become almost forgotten or that it has failed to realize the promise of its eminent originators.

---

* Butlin, *ibid.*

† Read before the Section in General Medicine of the New York Academy of Medicine, April 21, 1891.

Anything that will add to our certainty in the diagnosis of organic change in the viscera of the chest and abdomen is to be regarded as of the greatest possible value. In the hope, therefore, of obtaining some definite data concerning the value of auscultatory percussion, I instituted a series of observations, the results of which I have the honor to present to you this evening.

The method of practicing auscultatory percussion is very simple; the ordinary Cammann stethoscope is held firmly against the integument over the region of the solid organ or tissue to be investigated, while percussion is made from a point outside the periphery of the organ toward the bell of the stethoscope until a point is reached where there is an immediate and very great increase in the intensity and a change in the pitch of the percussion sound. This point is regarded as the edge of the solid organ or new growth.

For a long time I have been in the habit of employing this method, and with considerable satisfaction to myself, although I realized that my results were not always exact. In order to test the value of auscultatory percussion, I instituted two series of experiments—one series upon the dead subject, the other upon the living patient—with a view to the determination of the following points:

1. Is the method superior to ordinary percussion?
2. Is it an accurate method of estimating the size and outline of the liver, the spleen, the kidney, and the heart?
3. What are the errors of this method?
4. What are the conditions producing these errors?
5. Can enlargement of the heart be recognized by auscultatory percussion alone in any given case?

By the courtesy of Dr. Roosevelt and Dr. Hodenpyl, the pathologists of Roosevelt Hospital, and with the kind assistance of the house staff, I was enabled to map out the supposed outlines of the liver, spleen, and heart in a number of cases just previous to autopsy, and to mark the supposed position of the viscera by means of long pins driven through the abdomen or chest. In order to be entirely unbiased, I was careful to know nothing concerning the patient's diseases or condition before death, and I endeavored to mark the points at which a change of sound was noted regardless of any theory or supposed anatomical boundary. The results in regard to the liver, spleen, and kidney need not detain us. It is sufficient to state that in the course of a number of experiments I succeeded in accurately outlining *one liver* and *one spleen.* In all the other cases the pins bore no close relation to the organs they were supposed to represent.

My examination of the kidney was confined to the living subject, and my experiments covered a number of cases. Two examples will indicate the result. Two women, each with an unmistakable floating kidney, were examined. In each case the area of auscultatory percussion dullness was the same in both lumbar regions, although the kidney could be distinctly felt in the abdomen away from its proper position. I may add that the diagnosis of floating kidney was confirmed in one of these cases by a subsequent surgical operation.

The examination of the heart was much more satisfactory in its results and was conducted in the following manner:

I first endeavored to determine the best form of stethoscope to use, and in a preliminary series of experiments I tried in succession Cammann's solid wooden stethoscope, the hollow vulcanite stethoscope, Dr. Seaman's device for auscultatory percussion, and the ordinary Cammann binaural stethoscope. This latter I found gave as good results as the solid wooden stethoscope and was much more convenient to handle. The others were less satisfactory.

Having selected the ordinary binaural stethoscope with the small chest piece attached, I then mapped out the heart on a series of dead subjects in the following manner:

The chest piece of the stethoscope was pressed very firmly by an assistant over the area of cardiac dullness, or, roughly, midway between the nipple and the left edge of the sternum, while I made forcible percussion over the chest, beginning at the apex of the left lung and percussing downward till the muffled sound suddenly gave place to high-pitched sound of very considerable intensity and of a peculiarly wooden quality; this point, about an inch from the left of the sternum and usually under the third rib, I marked with a dermographic pencil. In a similar manner I went all about the periphery of the heart, usually ending at the second space on the right side. I then introduced pins in the intercostal spaces in such a way as to correspond as nearly as possible with the marks upon the skin. When the marks lay upon the ribs the pins had to be introduced diagonally in the space above or below the rib.

An exact copy of the outline of the heart was then taken on tracing-linen, the position of each pin was carefully noted, the midsternal line was drawn, and the outline of the nipple traced to obtain anatomical data for subsequent measurements. When the autopsy was made, the positions of the pins, whether right or wrong, were marked upon the tracing-linen.

In a number of cases the area of ordinary percussion dullness was also noted. This latter was usually much less satisfactory than the area obtained by auscultatory percussion; the edges were much less distinct, and often no idea of the area of the heart could be formed.

Certain points are to be noted in regard to the character of the sound produced in the neighborhood of the various borders of the heart when auscultatory percussion was employed. In all cases the change of note at the upper border of the heart was sudden, clear, and distinct, and presented no difficulty. It was found to occur in most cases at the middle of the third rib.

The delineation of the left border was generally equally easy, but sometimes it presented very great difficulty on account of the intensity of the sound produced even as far away as the axillary line. In these cases the first change to a high-pitched, sharp sound was assumed to indicate the left border, but not always correctly, as will be seen.

The lower border presented the greatest difficulty; it was frequently impossible to separate the dullness of the liver from that of the heart, and the resonance of the cartilages and the sternum was also embarrassing. It was comparatively easy to map out the lower border for a short space to the right of the apex (which could usually be recognized without much trouble), and also the lower extremity of the right border, and these points were usually joined as representing the position of the lower border. The percussion sound of the right border was feebler and of less high pitch than that of the left, but usually a point was found where a distinct increase in the intensity of the sound could be recognized, and this was regarded as the right edge of the heart.

It must be remembered that these outlines represented the heart muscle itself, and had no reference to the pericardial sac, or what is commonly known as the area of cardiac dullness.

Now as to the results of these experiments. I have notes of twenty-three examinations, and the records in nineteen of these are accurate enough for analysis; the other four were considered as fairly exact at the time, but no measurements were preserved.

If we exclude the results of the examination of the lower border in several cases, the general results may be expressed as follows:

In nine cases all the pins either pierced the junction of the heart and pericardium, or some of them were not more than a quarter of an inch from the heart borders, either within or without.

In five cases no pin was more than half an inch from the heart borders, either within or without, and most of the pins were very close to the heart borders.

In three cases all the pins were within an inch of the heart borders.

In one case the pins were nearly two inches beyond the left border of the heart.

In one case only the right border of the heart was examined; this was correct.

Thus we find that in one half of the nineteen cases the outline of the heart was determined with sufficient accuracy for all practical purposes, and in two thirds of the cases the outline was determined within half an inch of the heart borders, either within or without.

The right border was absolutely correct in twelve cases.

The left border was absolutely correct in ten cases.

The apex was absolutely correct in thirteen cases.

The upper border was absolutely correct in seventeen cases, a quarter of an inch too low in one case, and not noted in one case.

This seems to me to answer the questions as to the value of auscultatory percussion, as compared with ordinary percussion, and as to the accuracy of the method. As applied to the dead heart, it is superior to ordinary percussion in the majority of cases, but it is not absolutely accurate.

In studying the errors to which we are liable, it was found that these errors might be grouped into two sets:

1. Those in which no definite idea could be formed as to the position of the borders of the heart, by reason on the one hand of the excessive intensity of the percussion sound over a large area, and on the other hand by reason of the indistinct character of the percussion sound; this latter was the case with the right border only.

2. Those in which the sounds seemed fairly clear, but the area of the heart, as mapped out, was incorrect, being either too large or too small.

In both sets of cases the upper border seemed to be invariably correct.

In seeking for an explanation of these errors, the study of the autopsies does not help us very much.

In the first place, the area of the heart was correctly recognized in cases of pleurisy with effusion, where there was not very great effusion; in cases of pus and in cases of serum in the pericardial sac; in cases of complete consolidation of the lung; and in cases of emphysema of the lungs.

Secondly, the area of the heart was erroneously mapped out in cases of pleurisy with effusion, where there was great effusion, and in cases of healthy lungs and pleuræ.

My greatest error was in the case of a man whose left pleural cavity was very full of fluid; here the left border seemed to be at the anterior axillary line, whereas the autopsy showed the left border to be nearly two inches to the right of that point.

The proximity of the liver also causes error. In two cases I could not find the right border of the heart on account of the great intensity of the percussion sound on the right side of the chest, and the autopsies revealed a liver which was enlarged in one case and pushed upward in the other. In a similar manner the apex could not be found in three cases, and the autopsies showed the left lobes of the livers enlarged or in very close relation to the apices of the hearts. Another source of error would seem to be the very considerable variation in the extent to which the left or right lung overlaps the heart, and also the difference in the volume of lung tissue overlying the heart. In four of my cases I found that I had taken the point at which the border of the lung was situated as the border of the heart, whereas in reality half an inch or more of the heart lay deep down under the lung.

The great source of error is, I believe, traceable to the resonance which is transmitted from the ribs. This coincides with the statement of Dr. Cammann and Dr. Clark. The degree of intensity of the auscultatory percussion sound is found to vary greatly in different chests, and there is also great difference in the closeness of the approximation of the ribs in different individuals.

In those chests in which the ribs are very close together, and particularly in those in which the downward slant of the ribs is very great, the resonance transmitted from the ribs is very like that transmitted from the heart, and one is baffled in some cases in all attempts at delineation of the lateral borders of the heart by the impossibility of detecting any change of note which would indicate the borders of the heart. In the delineation of the left border of the heart particularly we have to percuss parallel to the long axes of the ribs, or often to percuss along their substance, and thus we are confused by the conduction of sound along the bone. In the same way the pigeon-breasted chest renders auscultatory percussion very difficult, both from the very great intensity of the resonance due to the shape of the chest and from the absence of adipose tissue over the ribs. It will be remembered that the upper border was always delineated correctly, and the explanation of this fact is found when we remember that here we do not percuss along the rib, but cross it directly at a right angle.

Another source of error is the faulty adjustment of the bell of the stethoscope. If the stethoscope is not pressed firmly against the integument and as nearly as possible in an intercostal space, the sounds produced will not be clear and distinct, and the least admission of air beneath the bell will destroy all sound. It is also essential that the stethoscope shall be applied over the area of superficial cardiac dullness.

Since the sound obtained by auscultatory percussion at the upper border of the heart is invariably clear and distinct, the character of this sound affords us a reliable test as the proper adjustment of the stethoscope. This upper border also affords the beginner a valuable point at which to study the peculiar change in the percussion note which announces that the edge of the solid organ has been reached.

A study of the area of the chest occupied by the heart proved interesting, and in many respects, to me at least, surprising.

In the first place, the shape of the heart, as traced upon the chest by joining the pins introduced at the upper border, left border, apex, lower border, and right border, is commonly much more nearly in the form of a parallelogram than I had supposed. In most of the books this area is figured as a triangle, with the apex in the fifth space.

Secondly, the left border of the heart was found to lie outside the left nipple in most of the cases, whether the heart was healthy or not. In the books the left nipple line is almost universally regarded as the extreme limit of the healthy heart when not displaced.

Thirdly, the area of the adult normal heart was found to vary within very considerable limits.

Fourthly, the areas of cardiac dullness in two cases were quite small, and were correctly mapped out by auscultatory percussion, although the hearts were found to be hypertrophied and even dilated. Of course, these were cases in which the antero-posterior diameters of the hearts were increased. Yet these hearts would be considered as clearly not enlarged when outlined upon the chest.

In order, if possible, to obtain some data as to the proper dimensions of the healthy or diseased hearts, I measured the areas of seven healthy hearts as marked upon the chest after having made due allowance for errors, if any, in the areas thus marked out. All the persons were adults, and mostly males.

The average diameters were found to measure as follows: The vertical, 3·91 inches; the left border to midsternum, 4·66 inches; the right border to midsternum, 1·8 inch. The entire transverse diameter, 6·14 inches. The greatest transverse diameter was 7 inches, the smallest $4\frac{14}{16}$ inches. Let us compare with this the diameters of the average of four enlarged hearts: Vertical, 4·62 inches; left border to midsternum, 4·81 inches; right border to midsternum, 2·37 inches; transverse, 7·18 inches. The greatest transverse diameter was $9\frac{12}{16}$ inches; the smallest transverse diameter was $5\frac{7}{16}$ inches.

I am aware that these diameters, so far as regards the healthy hearts, seem large, perhaps excessive, but I simply state what I found. I am also aware that the number of hearts examined is much too small to offer any reliable data for the estimation of the average size of the heart.

The following cuts, which are introduced simply as a few examples, have been most admirably reproduced on a reduced scale by Dr. Henry Macdonald. They show exactly the shape and size of the heart as outlined upon the chest. Figs. 1 and 2 are reproductions of the original tracings in every particular. The others Dr. Macdonald has placed upon an outline of the skeleton in order to assist the eye, but the position of the lines is almost identical in every case with the position of the original lines on the cadaver.

The heavy continuous line represents the outline as drawn upon the chest; the dots represent the points at which the pins were introduced. The small circles represent the proper position of the pins if they had been inserted in the right place, and the dotted line represents the true outline of the heart as found on post-mortem examination. If all the pins were correctly placed, no circles and no dotted lines are shown. No attempt was ever made to exactly outline the entire heart. I introduced my first pin to the left of the sternum to mark the upper border, and introduced my last pin to the right of the sternum in the second or third space to mark the right border. No attempt was made to outline the base of the heart or the great vessels.

Report of Autopsy in the Case shown in Fig. 1.—Male, thirty-six years old. Heart enlarged; hypertrophy of left ventricle. Transverse diameter, six inches and fourteen sixteenths. Left border to midsternum, four inch and four sixteenths. Right border to midsternum, two inches and ten sixteenths. It will be observed that the upper border lies under the *second* rib.

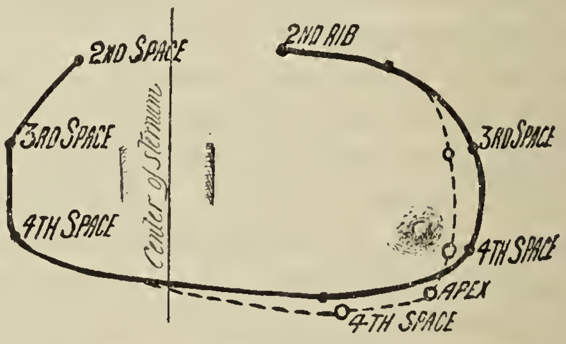


Fig. 1.

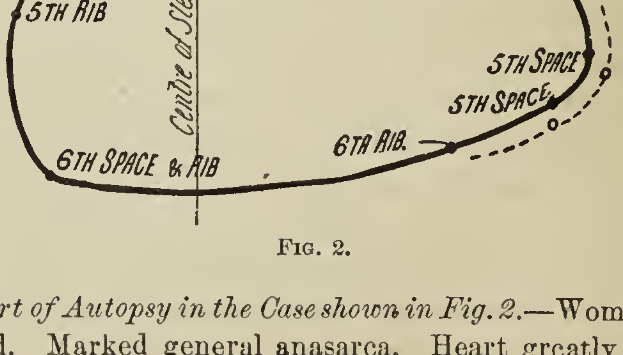


Fig. 2.

Report of Autopsy in the Case shown in Fig. 2.—Woman, forty years old. Marked general anasarca. Heart greatly enlarged and distended with blood, especially the right auricle. Some hypertrophy and dilatation of the left ventricle. Lungs normal. Error: all pins on the left side one third of an inch within the heart. Dimensions: left border to midsternum, six inches and five sixteenths; right border to midsternum, two inches and fourteen sixteenths. Position of nipple not noted, because of pendulous breast.

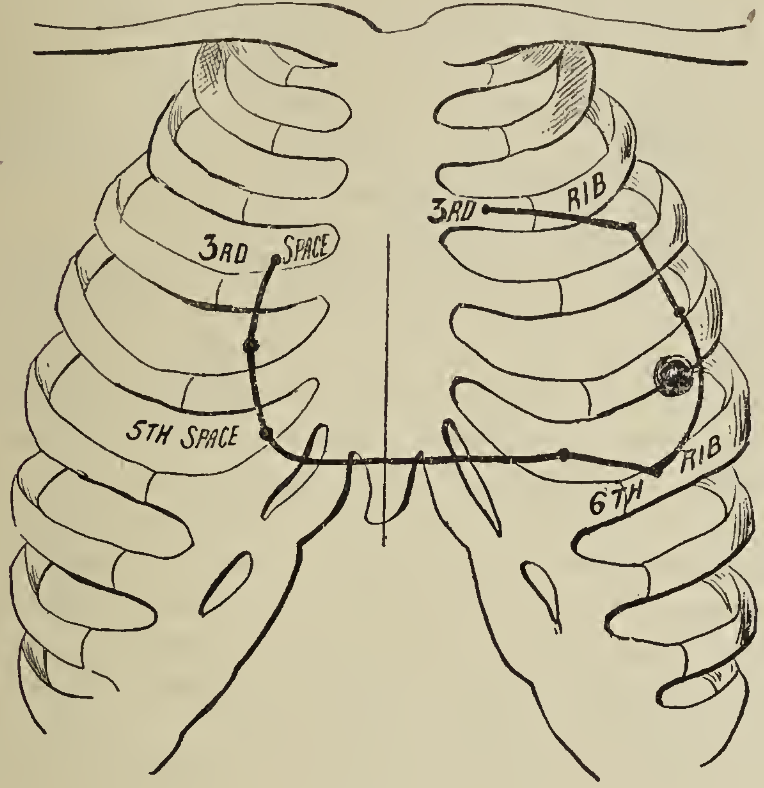


Fig. 3.

Fig. 3 shows a very curiously shaped heart. The auscultatory percussion sounds were very distinct, and all the pins were correctly placed, just piercing the borders of the heart.

Report of Autopsy.—Male, thirty-four years old. Heart normal. Right lung large and emphysematous; left lung, complete consolidation. Left border to midsternum, four inches and four sixteenths; right border to midsternum, two inches.

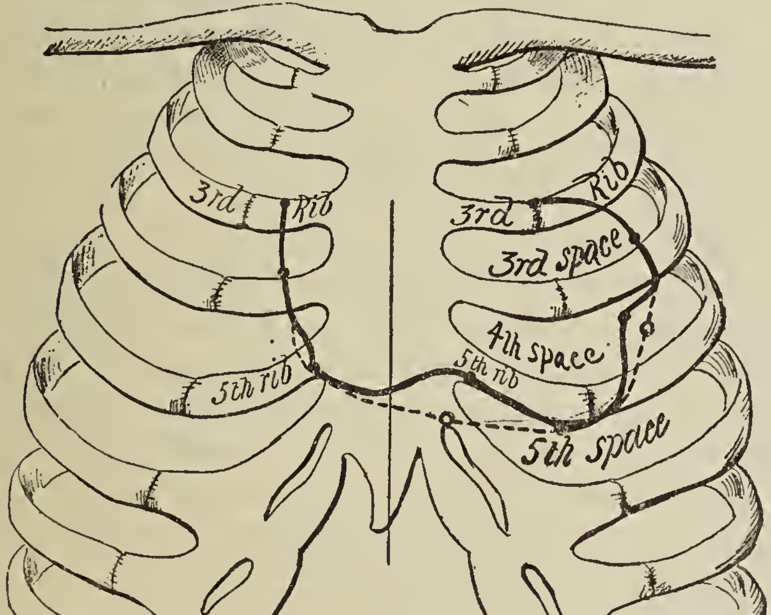


Fig. 4.

In the case shown in Fig. 4 the auscultatory percussion sounds were studied with very great care and every part of the heart's borders was examined in the most careful manner. It will be seen that two pins were wrong. The error of the one inserted near the lower border of the heart was easily accounted for by the resonance from the cartilages, but no reason could be found for the curve in the line at the left border or the slight curve in the line at the right lower border. The draughtsman has raised the whole heart a little. The apex should be well down in the fifth space.

Report of Autopsy.—Male. Right lung consolidated. Left lung œdematous. Heart normal. Position of nipple not noted.

In the case shown in Fig. 5 all the pins were correctly placed. The auscultatory percussion sounds were distinct on the right side, but very difficult to make out on the left side.

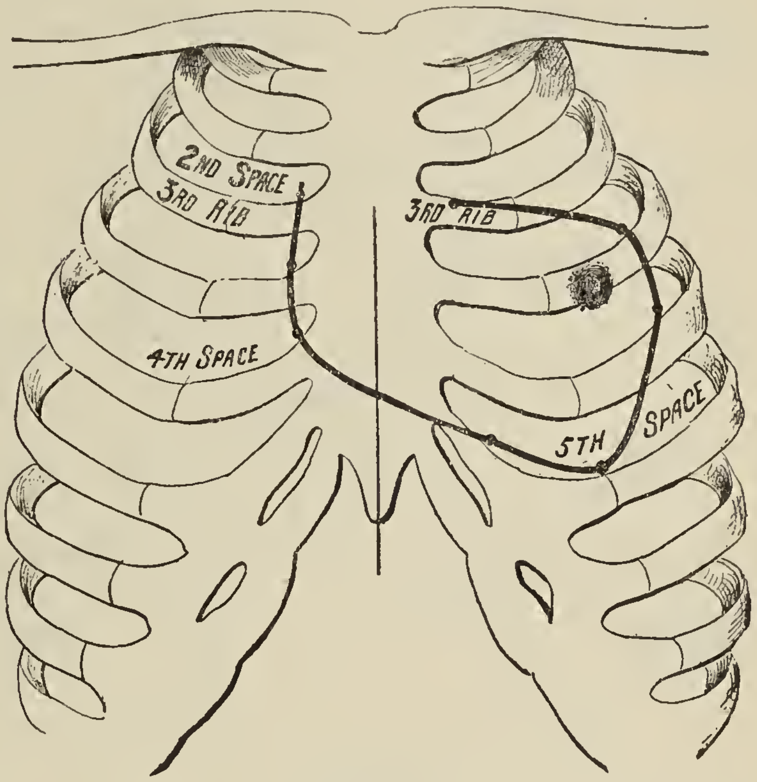


Fig. 5.

Report of Autopsy.—Male, twenty years old. Emaciated. Heart normal. Pericardium distended with fibrin and pus. Right lung consolidated. Left lung, lower lobe consolidated. This outline does not represent the limits of the fluid in the pericardium, but those of the heart muscle only.

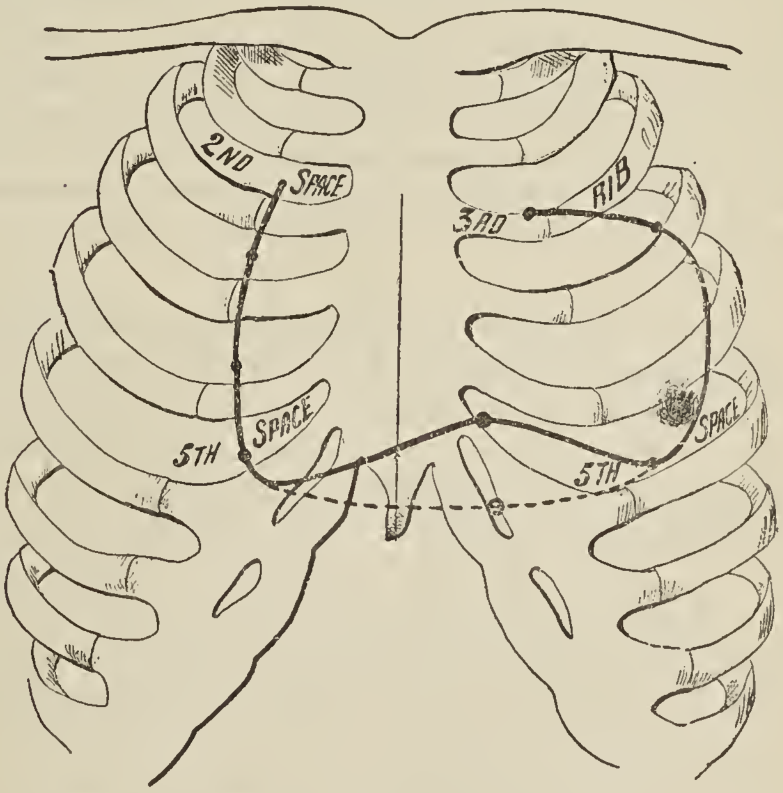


Fig. 6.

In Fig. 6 the nipple should have been shown in the fourth space. The cut shows very well the error in outlining the lower border of the heart. All the pins were right except that in the fifth space, close to the sternum. This was over an inch within the outline of the heart. The auscultatory percussion sounds were very indistinct over this lower border of the heart, and the pin was introduced at the point of most marked change in the sound. It was, of course, not expected to be correct.

Report of Autopsy.—Male, forty-one years old. Heart somewhat dilated and very fatty. Moderate amount of bloody serum in the pericardium. Left pleural cavity half full of serum. Whole left lung consolidated. Right lung normal.

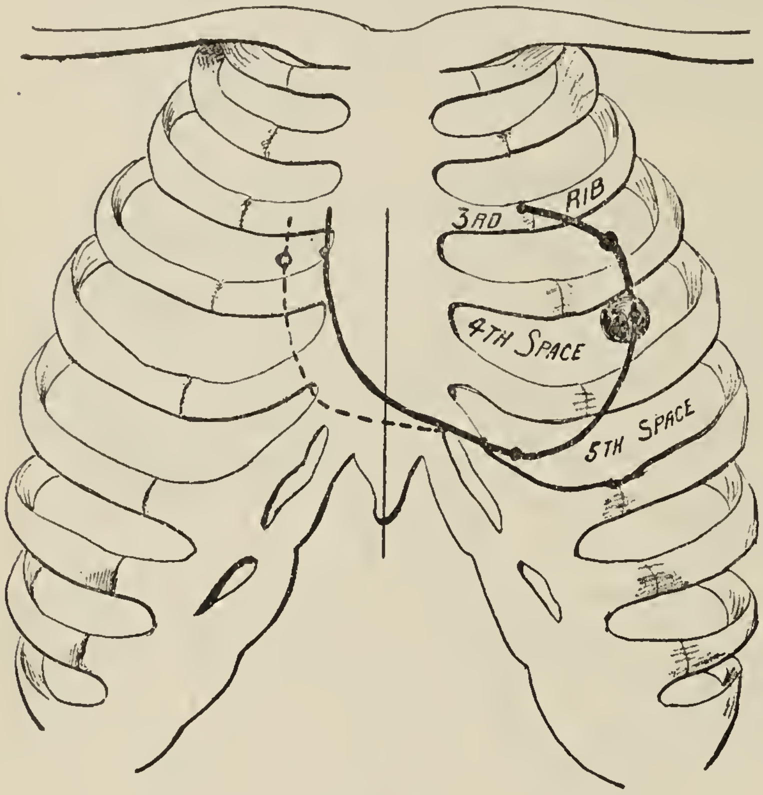


FIG. 7.

Fig. 7 shows the error on the right side of the heart. The auscultatory percussion sounds could not be heard beyond the right edge of the sternum, while the right border of the heart was three quarters of an inch to the right of the sternum. The point of particular interest in this case is found in the report of the autopsy, which states that the heart was hypertrophied and dilated. Yet it will be seen that the area upon the chest is not large, and that the left border lies just outside the nipple itself and within the areola of the nipple. A pin is seen at this point partially concealed by the shading of the nipple. From left border to midsternum the heart measured three inches and thirteen sixteenths; from right border to midsternum it measured one inch and ten sixteenths. The subject was a male, twenty-two years old.

My second series of cases comprised the examination of a large number (one hundred and fifty) of dispensary patients, mostly adult males, with a view to noting the differences, if any, in the results of such examination from the examination of the dead heart. The patients were examined in the erect position and tracings were preserved of the area of cardiac dullness. As the only way of verifying my results, I compared the position of the apex beat or any other point of pulsation with the corresponding area of dullness. The details are too extensive to enter upon here, beyond stating that the general result was satisfactory. My attention was chiefly directed toward an effort to determine the size of the cardiac area in the healthy subject, and to determine the relation of the left border of the area of dullness to the nipple. The cardiac area differed to a very great degree in different individuals. It increased with the age of the subject and with the breadth of the chest, but no certain rules could be formulated as to the normal area of the heart applicable to any given case. I would only state here that as the result of the measurement of the cardiac area in twenty-five men supposed to be perfectly sound, as regards their hearts and lungs, I found that the left border of the heart seems to lie outside the left nipple in a majority of cases, and that the measurements of the cardiac areas yielded an averaged somewhat above that of the dead heart. Thus the vertical diameter averaged 4·09 inches. From the left border to midsternum, 4·60 inches. From the right border to midsternum, 2·09 inches.

I have grave doubts, however, of the accuracy of the estimates of the right border in several cases, and I am inclined to believe that the figures are too high, since in these cases I marked the right border at two inches and a half to three inches from midsternum, which certainly seems excessive. Three inches from midsternum was not uncommon in the dead heart, but that I believe was due to overdistention of the right auricle, since the blood usually accumulates in the right heart previous to death. If, therefore, we eliminate these cases, we get an average of 1·5 inch from the right border to midsternum, which is probably nearly correct.

It must be remembered that the nipple is by no means a fixed anatomical point, although it is commonly accepted as such in the books when reference is made to the size of the heart. The vertical position of the nipple varies by as much as two ribs, and it also varies widely as to its distance from the midsternal line. Careful measurements of the position of the nipple in twenty males showed that it varied from three inches and five sixteenths to four inches and twelve sixteenths from the midsternal line. The first was in a boy of eighteen, who had every appearance of complete development, and in whom the apex beat was felt three inches from midsternum. The second was in a large man of thirty-two, and in whom the apex beat was felt four inches and six sixteenths from midsternum. Both of them had healthy hearts and lungs.

I also endeavored to decide whether it was possible to estimate the area of those hearts in which the conditions of the lungs prevented the cardiac dullness from being estimated by ordinary percussion, such as phthisis, with consolidation of the left lung, and particularly in well-marked emphysema of the lungs. In these conditions I was able to map out the cardiac area in most instances, but not in every case. In many cases of emphysema the cardiac area was found to be considerably increased in size.

Fig. 8 shows the outline of the heart as drawn upon the chest of a healthy living man. It shows the shape, which is very nearly that of a parallelogram, and that the left border of the heart lies outside the nipple. The subject is a man twenty-four years old; weight, one hundred and sixty pounds; height, five feet seven inches. The nipple is four inches and two sixteenths from the midsternal line. The apex beat is felt at three inches and a half from the midsternal line. The heart measures four inches and three quarters from the left border to midsternum, and one inch from the right border to midsternum.

The right should have been drawn a little more to the right of the sternum.

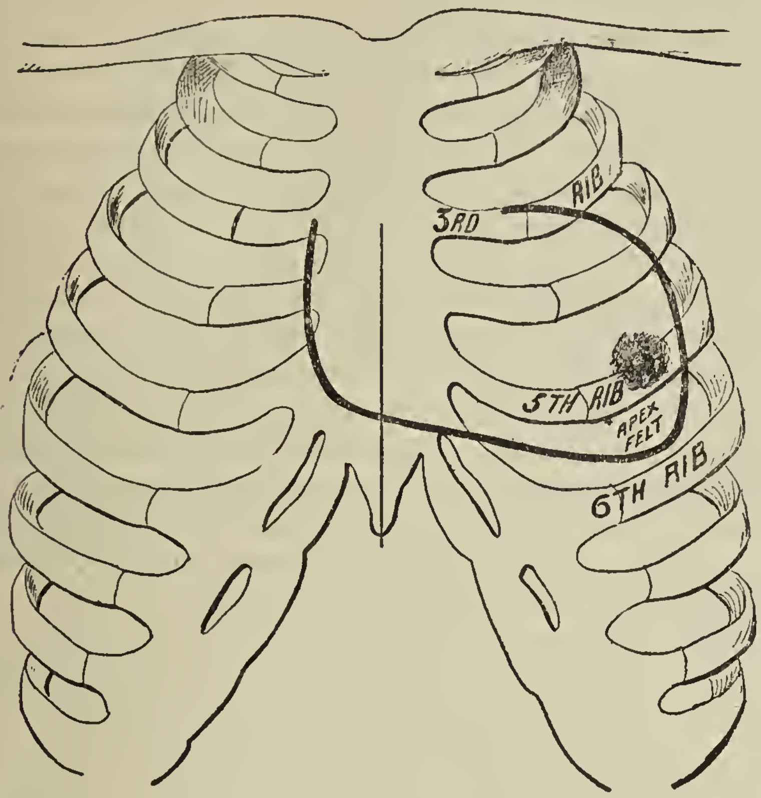


Fig. 8.

Fig. 9 shows the outline of a living man twenty-seven years old; weight, one hundred and fifty-six pounds; height, five feet six inches and a half. Heart and lungs healthy. Nipple, four inches and a half from midsternum. Apex beat felt four inches from midsternum. Left border, four inches and twelve sixteenths from midsternum. Right border, one inch and a half from midsternum.

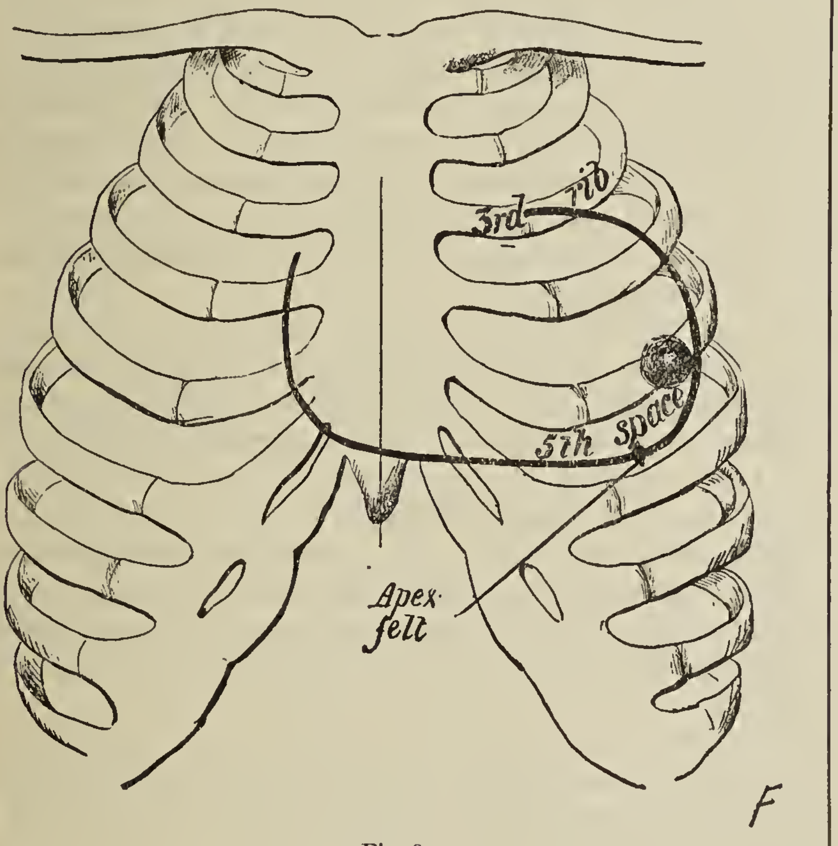


Fig. 9.

Fig. 10 shows the outline in a living man eighteen years old; weight, one hundred and twenty pounds; height, five feet five inches. Auscultatory percussion sounds very clear. Nipple, four inches from midsternum. Apex beat felt three inches and a quarter from midsternum. Left border to midsternum, four inches and twelve sixteenths. Right border to midsternum, one inch and ten sixteenths. Heart and lungs healthy.

Fig. 11 shows the outline in a living man fifty years old; weight, one hundred and sixty-eight pounds; height, five feet ten inches. Marked emphysema of lungs, with barrel-shaped chest. Auscultatory percussion sounds clear at the upper border, left border, and apex; not clear at the right border. Pulsation can be seen and felt over an area corresponding to the whole left border, the apex, and a portion of the upper border. Nipple, four inches and two sixteenths from midsternum. Apex beat felt five inches and a half from midsternum. Left border to midsternum, six inches and three sixteenths. Right border to midsternum, one inch and nine sixteenths. Upper border to lower border, five inches and a half. Dilated heart. No murmurs. Tracing too large to show upon the skeleton.

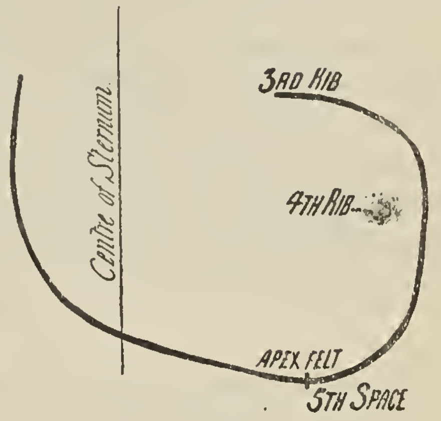


Fig. 10.

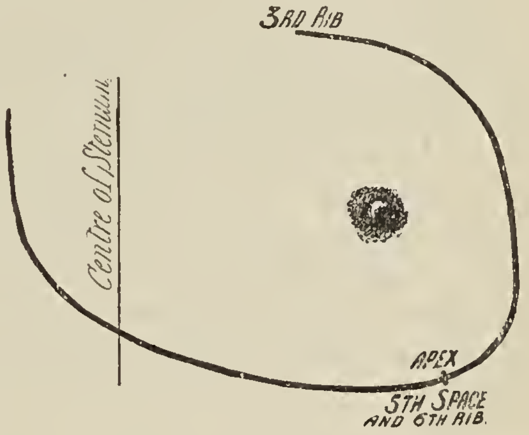


Fig. 11.

It is well known that in many instances, whether of health or disease, the apex beat can not be felt, and in these cases I was able to map out the cardiac area in such a way as to correspond to anatomical boundaries. In these cases the auscultatory percussion sound would seem to indicate that the apex lay behind the fifth or sixth rib.

In the same way I was enabled to map out the increased cardiac area in many cases of chronic valvular endocarditis previous to having heard the murmurs and without knowing the position of the apex beat, which was often obscure.

That auscultatory percussion can not always be relied upon was shown, however, by three cases. In two the area of cardiac dullness was considerably smaller than the real cardiac area, as shown by visible pulsation beyond the line of any dullness whatever; and in one case of marked emphysema, with a barrel-shaped chest and the signs and symptoms of a dilated heart, three successive examinations, at intervals of six weeks, yielded different areas of dullness.

The conclusions to be drawn from these studies are therefore—

1. Auscultatory percussion, in my hands at least, is of no value in the examination of the liver, the kidney, or the spleen.

2. It is a very valuable method of estimating the area of cardiac dullness, and it is much superior to ordinary percussion for this purpose, but it is not to be regarded as absolutely accurate.

3. It is doubtful if it can be relied upon to delineate less than a quarter of an inch enlargement of the heart, and therefore it is of no value in hypertrophy of the heart without dilatation.

4. By its use the heart may be outlined in conditions of the lung, such as emphysema and consolidation, in which ordinary percussion is not available.

5. If by its use the left border of the heart is recognized as being outside the areola of the left nipple, or, better, more than four inches and a half from the midsternal line in a man of medium size, or five inches in a large man, the heart may be considered to be enlarged, especially if the vertical diameter exceeds four inches.

ON SOME POINTS IN THE PATHOGENESIS OF AURAL VERTIGO.[*]

By OREN D. POMEROY, M. D.,
SURGEON TO THE MANHATTAN EYE AND EAR HOSPITAL, ETC.

This paper is not intended to enter into all the causes of vertigo, but only those associated with diseases of the ear, and these are drawn principally from the experiences of the writer. It is probably safe to say that vertigo depends on cerebral and spinal disturbances; on some fault with the eyes, including any or all of its muscles, or the condition of the optic nerve; on ear affections; on stomach disorders; or any other source of peripheral irritation which acts on the co-ordinating center. The cases illustrating this subject are taken from my private note-book, and are as follows: [†]

Case I.—William H. S., aged thirty-two. Paralysis of left facial nerve for several months. Tongue protrudes to one side. Has had tinnitus aurium for three months, which is growing worse. H. D. L. w. 3″; A. P. the same. Right ear normal. Has had a dull, aching pain in the occiput for two or three months. Some paresis of the external rectus of the left eye. Vision of right = $\frac{20}{20}$; vision of left = $\frac{20}{30}$. Left optic nerve apparently hyperæmic. Has had a benumbed feeling in the face for more than two years. No syphilis. A bookkeeper, not very vigorous. Has unsteadiness of gait. Suspect tumor of the brain on the left side. No further record.

Case II.—Mrs. B., aged thirty-seven. Three years since, she had an attack of acute suppuration in right ear, which has left a large perforation; ear still discharging slightly. Left also had an attack of catarrhal otitis at the same time. H. D. R. w. 2″; A. P. +. H. D. L. w. 10″, A. P. +. Has had tinnitus, but now there is none, unless the ear discharges from a relapse. When fatigued or excited, she has pain in the whole of the head, with a strange feeling as though she were about to become demented. This condition is also associated with considerable vertigo. Perforation healed after two months, and the vertigo became less frequent. It seems to the writer that the vertigo depended on the condition of the suppurating ear.

Case III.—William W., aged twenty-three, fell on the pavement eight weeks since, when he was at once seized with tinnitus aurium and profound deafness, which still continues. H. D. R. and L. w. 2″, not improved by inflation. Bone conduction very feeble in each—more so in left. Had headaches for several weeks, during which he had vertigo. This is evidently a case of labyrinthine disease from traumatism, the vertigo depending on this lesion.

Case IV.—John K., aged fifty-five. Always had good hearing until five weeks since, when, during a wrestling match, he ell, head first, on a paving stone, which resulted in almost complete loss of hearing of left ear. There was bleeding at the ear after the fall. H. D. R. w. 3′, H. D. L. w. 2″. Bone conduction very weak in left. Has vertigo since injury. I infer that the deafness, tinnitus, and vertigo depend on injury to the left labyrinth. Probably fracture of the pars petrosa.

Case V.—Mrs. W. B. W., aged thirty-eight. Pain in right ear ten days since, with discharge. This condition soon disappeared, but deafness and tinnitus remained. H. D. w. o. n. 8″, A. P. w. 1″. Bone conduction stronger on this side. H. D. L. w. 3′, A. P. 5′. Has been dizzy for a year or two, but during the present acute attack has had more vertigo than usual. After two weeks of treatment the hearing of the right arose to 3″ for the watch, the left remaining the same as at first. Vertigo caused by sunken drum membrane of right ear.

Case VI.—John F., aged sixty-nine. H. D. R. n. 15″, A. P. 20″. H. D. L. n. 17″, A. P. 19″. Voice at 2′, better in L. Caught cold in right six weeks ago; discharge and pain. Says he heard well before this attack; do not feel sure of this. Bone conduction better in right. Tinnitus in left for ten years and in right for two years; in latter, much worse since the acute attack. Naso-pharyngeal catarrh. Tinnitus diminished by inflation. Has considerable vertigo; difficult to tell how far a possible labyrinthine complication causes this. Advanced sclerosing processes of middle-ear disease may in this case cause pressure on vestibule and result in vertigo.

Case VII.—Patrick M. was taken with a pain in the left ear five weeks since, which was soon relieved by rupture of the membrane. No pain in the ear since, but at the apex of the cranium on the left side there was some pain. Since three days he has staggered toward the left; nausea; walks with a very uncertain gait; gropes, and carefully balances himself as he walks. No polypi. Bone conduction not determined. Not quite certain of the exact mode in which the vertigo was brought about. No further note.

Case VIII.—Lawrence M., aged sixty-one, eight days ago (October 9th) was attacked with vertigo, which has continued until the present time. Three days after the first attack had a bad cold with headache. Is a drinking man. H. D. R. w. 12″, A. P. 16″. H. D. L. 0. Tuning-fork on teeth not heard at all on left side. On mastoid of left the tuning-fork was heard only four seconds. Temporal region of same side feels benumbed. Although there was a possible cause for the vertigo in the condition of the right ear, I believe the left ear, with its undoubted labyrinthine disease—probably Ménière's—was the cause of the vertigo.

Case IX.—R. S. C., aged thirty-five. Two years since was struck on the head, and the right membrane was ruptured, a considerable bleeding resulting therefrom. H. D. R. w. 8″, A. P. slightly better. H. D. L. w. 24″, A. P. 28″. Complains of vertigo and fainting. I conclude that the vertigo here is due to disease of the labyrinth, the consequence of traumatism. Treatment, large doses of iodide of potassium.

Case X.—John S., aged forty-one. Applied for treatment September 19, 1890. Some middle-ear catarrh in right with H. D. w. 8″, not improved by inflation. Left membrane looks like old catarrh. Four weeks since caught cold, resulting in pain in left ear, with tinnitus and sudden total deafness, which still continues. He is dizzy, with nausea and a heavy feeling in the occiput. Left leg feels as though asleep, and he has a burning sensation, more especially in the sole of the foot. He is entirely unable to work. Tuning-fork not heard on teeth by the left ear, neither is it heard on left side of head. Vertigo evidently depends on labyrinthine disease of left, which seems more like Ménière's disease than aught else.

---

[*] Read before the Medical Society of the State of New York at its eighty-fifth annual meeting.

[†] Explanatory note: H. D. (hearing distance). R. (right ear). L. (left ear). w. (watch). N. (snapping of finger-nails). V. (voice). ″ (inches). ′ (feet). My watch may be heard readily at forty-eight inches. A. P. (after inflation by Politzer's method or otherwise).

Case XI.—D. K. B., aged thirty-three. Right ear normal; left never heard well, though no special symptoms. Two years since had pain in this ear with discharge and swelling over mastoid. This was soon followed by facial paralysis which was recovered from spontaneously in a few weeks. On his first visit the H. D. R. was w. 10″, A. P. 15″. H. D. L. n. 1″, and voice 1″. Found a granulation in left which was touched with caustic. Five days after this the granulation was removed by a curette. This operation was again repeated in five days with cauterization; nearly cured; tinnitus much less. Bone conduction better in the left, or suppurating ear. He occasionally has vertigo, when he inclines to swing to the left. Treatment has caused the vertigo to nearly disappear. Cause of vertigo, the condition of left ear, although the right ear might have caused it, but this was not treated.

Case XII.—Mrs. L., aged forty. Fifteen years since had influenza and recovered with great loss of hearing in left, accompanied by tinnitus, which sometimes was very troublesome. Sore throat much of the time. H. D. R. 14″, A. P. same. H. D. L. w. 1½″, A. P. same. Tuning-fork on teeth only heard in right, but if placed on left mastoid may be heard faintly. Variable hearing in right. Has had vertigo for seven years. Eight years ago slipped and fell on sidewalk, striking left side, back, and occiput; was unconscious for a few minutes but walked home afterward. Three months after this had an attack of vertigo and fell down stairs. Been dizzy most of the time since. I conclude that the vertigo depended on the traumatism resulting from the fall, which had caused labyrinthine disease.

Case XIII.—Annie McN., aged fifty-two. Chronic middle-ear disease in both; secondary labyrinthine disease in left. H. D. R. w. 1½″, A. P. the same. H. D. L. w. ½″, A. P. the same. She says she hears better since being inflated a few days since. Hears conversation perceptibly better in right. Been deaf five or six years, but much worse since two years. Has been dizzy for two years; worse in damp weather, and hearing also lowered at such times. She was inflated one week since and says she feels less dizzy. Bone conduction stronger in the right or better ear, therefore infer labyrinthine trouble in left. From the fact of diminished vertigo after inflation I infer that the cause of the trouble here was sunken membrane and not labyrinthine disease.

Case XIV.—N. E. C., aged forty-five. Had aural polypus of left, filling the meatus. There was also mixed with the polypus a quantity of lardaceous material simulating some of the varieties of aspergillus, which recurred every day or two until the use of the bichloride solution (1 to 6,000), when it promptly disappeared. The pressure of the polypus and also of this lardaceous material undoubtedly caused the rather extreme vertigo complained of, inasmuch as it disappeared after the removal of the offending substances. On touching some parts of the meatus the vertigo was augmented; this looked as though the pneumogastric had something to do with the causation of the vertigo.

Case XV.—Mrs. L., aged fifty. Five years since (May, 1885) had an attack of vertigo on the street, so severe that she could not stand, and required to be carried into a house, where she was compelled to remain for six hours. Subsequently had attacks once in two or three days, lasting about an hour each. This continued until October. She was then treated properly by a New York ophthalmic and aural surgeon, who fitted crossed cylindrical glasses to her eyes, besides attending to the ears. During the subsequent eighteen months little or no vertigo. Since this she has had occasional attacks. One year ago had vertigo lasting two weeks, when she took to her bed. It was thought to be caused by stomach trouble; she vomited occasionally. Some pain in the better ear but no apparent lowering of the hearing. Since this, attacks of pain in both ears, accompanied by severe vertigo, have occurred (lies down for three or four hours). The last one was one week ago. H. D. R. w. 16″, A. P. the same. H. D. L. not known, but it is very much lowered. On syringing, water passed into the throat, though no discharge. (In 1882 had suppurative otitis in this ear.) Bone conduction very weak; undoubted labyrinthine trouble. Vertigo in this case depended on the labyrinthine disease of the left, which seems to have been secondary to the middle-ear disease.

Case XVI.—Mrs. Kate H., aged forty, has a chronic suppuration of the left ear for ten years. This ear is full of polypi. She has a feeling of oppression on left side of head, with general headaches. She has frequent periods of vertigo extending back five years. Before an attack of vertigo she experiences a feeling of weight in the center of her forehead. These attacks occur more frequently whenever she takes cold. The whole of the polypus was removed at one sitting—with forceps and curette. Vertigo and pain in head almost disappear at once. One month subsequently a very slight discharge remains and no vertigo unless she is fatigued or suffers from cold.

Case XVII, July 9, 1889.—E. G. T., aged twenty-eight. Left ear has discharged most of the time for six years. A brief period of treatment has arrested the discharge. Right ear has chronic middle-ear catarrh, which improves in its hearing by inflation, therefore membrane sunken. After one month of treatment the vertigo has nearly disappeared. I infer that the vertigo was caused by the catarrhal and not the suppurating ear.

Case XVIII.—Fannie D., aged sixty-seven, was sunstruck twelve years ago. About eight years since the lid of an ice-box fell and struck her on the head. Some headache during the day. A few weeks after this the head had a confused feeling, as though she was about to lose her reason. Has had vertigo for two years. I saw her four years ago and detected no ear trouble, although she had some tinnitus aurium at that time. H. D. now (April 15, 1889) is w. 9″ for R.; not improved by inflation. L. w. 4″, A. P. 9″. Placed her on treatment for middle-ear catarrh, and also administered ten drops three times a day of a saturated solution of iodide of potassium.

June 17, 1889.—Been dizzy, especially when attempts to lie down; swimming in the head. H. D. R. w. 3″; not improved by inflation. Iodide of potassium increased to twenty grains three times a day. Better, but not well. It is uncertain how far the vertigo depended on middle-ear catarrh. The traumatism or the sunstroke might have been important factors in causing the vertigo.

Case XIX.—C. T. H., aged forty-five, middle-ear disease in both and possibly secondary labyrinthine disease in left. Since one year has noticed a fullness or a stopped-up condition of left ear, accompanied by tinnitus. There is now some tinnitus in right. Has had dizzy spells. Has taken large doses of iodide of potassium without benefit. H. D. R. w. 5½′, A. P. 10′; H. D. L. w. 8″, A. P. 12″. Tuning-fork on teeth heard better in the good ear. When both ears are stopped the bone conduction is better in the more perfect ear. (This latter test is my own.) I believe the vertigo in this case is due to middle-ear disease.

Case XX.—Kate B., aged sixty, applied for treatment September 17, 1889. She complains of being very dizzy—so much so as to be obliged to catch hold of objects to keep from falling. This condition has continued for six months. The trouble dates back to a cold. H. D. R. w. 2″, A. P. 3″; H. D. L. w. 15″, A. P.

23″. In this case, from the slight improvement on inflation and the profound hardness of hearing, I should infer that the vertigo depended on pressure on the perilymph from the sclerosing processes of advanced middle-ear disease rather than on sunken membrane.

Case XXI.—E. C. T., aged sixty-six, first consulted me September 27, 1889. Has had a chronic suppurative inflammation of right tympanum since three years of age. Left ear normal. Granulations found in right and were removed by forceps. He is a wool-sorter by profession, and has had to discontinue work because of his ear trouble. Since two years he has had vertigo of a very decided character; he staggers like a drunken man and has fallen several times. There is no other condition about him except the diseased ear to account for the vertigo. Granulations or polypi are adequate to produce pressure upon the internal ear, so also are collection of inflammatory products found in such cases.

Case XXII.—W. R. J., aged forty-two, subacute catarrh of Eustachian tube of one month's duration. Eight years since, similar symptoms. No complaint of hardness of hearing. Has some tickling in the throat; tinnitus in both ears is accompanied by vertigo. H. D. R. and L. w. 9′, A. P. 12′. Took quinine at one time, but it had no effect on the hearing. Recovered after a few days' treatment. This was a case of labyrinthine pressure from sunken drum membrane, albeit the hearing seemed perfect, but a careful watch test showed slightly diminished hearing.

Case XXIII.—M. A. C., aged fifty-nine. Chronic aural catarrh in right; left normal. Tinnitus in right, little or none in left. H. D. R. w. 2½″, A. P. 8″. A few weeks since he was ill in bed for five days with symptoms of nausea, vomiting, and the most distressing vertigo. For four days he could neither sit up nor even raise his head from the pillow on account of the vertigo; could eat nothing. During this attack there was tinnitus aurium in both, but principally in the right. No labyrinthine complication. The vertigo was caused by pressure from sunken drum membrane.

Case XXIV, October 3, 1890.—W. M. D., aged thirty-nine, has chronic middle-ear disease of more than six years' duration. H. D. R. w. 16″, A. P. the same. H. D. L. w. 2½″, A. P. the same (was inflated yesterday). Tinnitus in both, but more in left. In bad weather, hears worse. On October 7th said he was dizzy, also on the 3d and 4th (had taken five grains of quinine for three nights, but it was not thought to have caused the vertigo). H. D. R. w. 4″, A. P. the same. H. D. L. w. 1″, A. P. 2″. There was a syphilitic history, and he was placed on "mixed treatment."

November 8th.—H. D. R. w. 30″, A. P. 40″. H. D. L. w. 7″, A. P. 9″. On the 12th the right went up to 54″ and the left to 17″, and on January 7th right heard watch at 48″, left 16″.

This somewhat unaccountable rise in the hearing was thought to be due to the influence of the mixed treatment on the syphilitic condition. He previously had epileptic seizures which could not be fully accounted for—perhaps syphilis, perhaps ear disease.

January 20, 1890.—H. D. about as before, but slightly improved by inflation. Constitutional treatment discontinued, and treatment of Eustachian tubes and inflation continued. Very little vertigo at present.

February 15th.—H. D. R. w. 5′, not improved by inflation; L. 12″, not improved.

April 14th.—Had a stuffed feeling in each ear and vertigo; not certain that the vertigo depends on the ear trouble.

September 22d.—H. D. R. w. 7″, A. P. 11″; H. D. L. w. 9″, A. P. less. This case is somewhat complex, and it is not quite clear how far the vertigo was caused by the aural disease. The epileptic element was also complicating and it may have been caused by the ear trouble. Syphilis again adds to the perplexities, especially as the bone conduction was somewhat too weak.

Case XXV.—Edward H., a policeman, aged forty-eight, has chronic middle-ear disease of two years' duration. Has some naso-pharyngitis. H. D. R. w. 5″, A. P. 6″; H. D. L. w. 2″, A. P. 3″. Has tinnitus in R., but none in L. Has been dizzy occasionally during the last two years. Whenever he takes cold he is inclined to recurrences of the vertigo. Under appropriate treatment the vertigo became much less in a few days. The first treatment continued for six weeks, when there was no further vertigo, except at long intervals. After three months, February 23, 1890, while on his beat, he suddenly fell down as though struck by a slungshot, although he did not lose consciousness. He had been dizzy a few days before this attack. At this time the H. D. R. was w. 2½″, A. P. 5½″; H. D. L. w. 6″, A. P. 9″. He was relieved by treatment. On March 29th he returned with a new attack of dizziness; felt a sudden shock to head and came near falling; was obliged to catch hold of something. Treatment continued; was again relieved.

April 7th.—Much better, but, there being signs of a storm, he felt as though there would be recurrences of the trouble. During this treatment there was no permanent improvement in the hearing of the right, but in the left it was increased from three to nine inches. This was a case of vertigo dependent on intra-labyrinthine pressure consequent on sunken drum membrane, the latter induced by insufficient air supply to the tympanum from obstructed Eustachian tubes, which were affected by his frequent attacks of pharyngeal catarrh.

The foregoing cases may be summarized thus: Vertigo was the result of eye or ear trouble or brain tumor in Case I; of suppuration of middle ear in Case II; of labyrinthine disease from traumatism in Cases IV, IX, and XII; from sunken membrane in acute middle-ear catarrh in Case V; from labyrinthine disease or sclerosis of middle ear in Case VI; from acute suppuration, and possibly labyrinthine disease, in Case VII; from Ménière's disease in Cases VIII and X; from suppuration and polypi in Cases XI, XIV, XVI, and XXI; from sunken membrane in chronic aural catarrh in Cases XIII, XVII, XIX, XXII, and XXIII; from labyrinthine disease, secondary to middle-ear disease, in Case XV; from sunstroke or labyrinthine disease in Case XVIII; from sclerosis in advanced middle-ear disease in Case XX; from syphilis, epilepsy, or middle-ear disease in Case XXIV.

It would seem by the above summary that a more exact statement might have been made as to the specific causation of the vertigo, but the writer used what acumen he was possessed of in estimating causations.

I notice, in the review of cases, that only one (Case XX) is recorded as vertigo from advanced sclerosing processes of chronic middle-ear disease. This might be misleading, as I am sure I have met with a considerable number of cases of vertigo in profound middle-ear deafness with no tubal obstruction. In such cases ankylosis of the ossicula, adhesive bands within the tympanum causing fixation of the stapes in the oval window, secondary contractions of the tensor and stapedius muscles, thickening and rigidity of the membrane of the round window, exhibit sufficient causes for producing pressure upon the perilymph and consequent vertigo. Of late, operative procedures have been instituted for the relief of this condition—such as division of the tensor tympani, of the stapedius, perforation of the membrane, division of the posterior fold, etc.—but with little effect. More recently still, the membrane itself, with one or more of the ossicles, has been removed with the hope of relieving sources of pressure, or obstruction to the passage of audible tones, but with uncertain results. The general opinion of the American Otological Society at its meeting in 1890 seemed opposed to this procedure, although it was confronted by a single case of Dr. Burnett's, of Philadelphia, where removal of the drum membrane and malleus had completely relieved a patient of tinnitus and vertigo. I can conceive that such operations may be justifiable, though I should incline to reject all cases where bone conduction was weakened.

Vertigo may be observed in any form of *labyrinthine disease*, but, I believe, always in Ménière's disease.

Labyrinthine disease from traumatism very often exhibits vertiginous symptoms, as my cases show. In hyperæmia of the labyrinth from the effect of drugs, notably of quinine, there is very likely to be vertigo, although, where quinine is administered, there may be a middle-ear causation as well. In disease of the labyrinth which is secondary to middle ear disease we often observe vertigo. It is difficult to state precisely the mode in which disease of the labyrinth causes vertigo, but, in a general way, we may conclude that pressure has very much to do with it—pressure from hyperæmia or inflammatory products. Disorganization of the labyrinth would naturally disturb the function of co-ordination. The integrity of the semicircular canals would be affected by almost any form of labyrinthine disease, and we may give these canals whatever credit they may have in presiding over co-ordination. Vertigo from any form of organic labyrinthine disease is not to a great extent amenable to treatment. Absorbent remedies, like mercury and iodide of potassium, promise the best results, perhaps, of any.

In middle-ear disease the vertigo undoubtedly depends on pressure. In great hyperæmia of the tympanum, pressure on the labyrinth waters may easily be effected through the round or the oval windows. Collections in the drum cavities, the product of inflammation, may produce a similar result. Pressure on any part of the perilymph may disturb all the functions of the labyrinth.

The sunken drum membrane causes direct pressure on the vestibule, through the stapes, it being driven inward at its fixation in the oval window. The cases here reported show a direct relation between the obstructed tube and the vertigo. Treatment relieved the patient; but, on a relapse of catarrhal symptoms with obstruction of the Eustachian tubes, the vertigo returned.

Another cause of vertigo mentioned by Dr. Burnett, of Philadelphia—to wit, spasmodic contraction of the tensor and stapedius muscles, causing temporary hardness of hearing and vertigo—I have no experience of, though I readily see the possibility of such a phenomenon: pressure on the perilymph from indrawn membrane.

The cases also show great frequency of vertigo in aural polypi. In these instances it needs no demonstration to show that pressure is the cause of the trouble. In malignant tumors of the tympanum there is vertigo, with, perhaps, greater frequency than in ordinary polypi. I have no record, but, to the best of my recollection, almost all of my cases of malignant disease of the tympanum have been accompanied by vertigo. In these instances the tumor is likely to grow more rapidly, attain to a greater size, and consequently cause more pressure than in aural polypi. Other causes of aural vertigo may perhaps be mentioned here. Syringing the ear often causes giddiness, undoubtedly from violence inflicted on the labyrinthine fluids. I once heard of a patient who fell to the floor from an attack of vertigo while administering a nasal douche, some of the fluid having entered the tympanum. Violent inflation of the drum cavity will sometimes induce a temporary vertigo.

In reviewing the work of neurologists, it is apparent enough that diseases of the internal ear figure principally as pathogenetic factors in vertigo. This I believe to be a conspicuous error, as in my own experience a much larger number of cases of middle-ear disease are concerned in the causation of vertigo than are those of the labyrinth.

I have thought it proper to develop this subject as in the present article, from the fact that vertigo has often been regarded as evidence of brain or spinal disease, when an investigation of the auditory apparatus might have placed the difficulty elsewhere.

STERILIZED MILK.*

By EDWARD F. BRUSH, M. D.,
MOUNT VERNON, N. Y.

Up to this the bacterial age, the application of heat in the preparation of food was simply to improve its digestibility or to meet the requirements of advanced civilization by improving its appearance, odor, or taste. Before man reached the age when fire was in use, putrefaction was the agent allowed to improve the digestibility of his meat-food. After the discovery and use of fire, it was found that it was not necessary to await the process of putrefaction to make food palatable and easy of digestion, but that fire would also improve its digestibility and increase its palatability, and that too in a more rapid manner. Now, with the prevailing idea that all diseases are due to a germ, another function of heat is to apply it to food in order to kill the germs that exist everywhere, and thus to avoid the imaginary or real pathogenic influences of bacteria. Enthusiasm in science is dangerous, and the present devotion to the germ phase of disease can not be classified as other than enthusiasm, and the prevailing enthusiastic warfare against all germs, leading as it does to sterilization of food, may be dangerous. Perfect sterilization as applied to food means perfect death, and whether absolutely dead food is the best for infant nutrition may well be questioned.

The adult civilized human being has no natural food. All his nutritive material has been improved, and some of it almost generated *de novo*, by cultivation, selection, combination, etc. All wild animals have their natural food, and the young of all mammiferous creation are provided by Nature with a natural food. Among the animals where the female can not supply the natural nutriment the duty devolves on the male. But man, with his inherited idea of artificial food, imagines that the human young can be nourished by artificial preparations; the statistics, however, relating to artificially fed infants show how poorly the plan works. The natural food for the human young comes from the female breasts; this is a living, vitalized food; certainly we know that this food can be procured from the breasts of females who have not recently or at any time passed through the parturient state. We likewise know that the male is provided with mammary glands which will secrete this natural food for the young. Thus it will be seen that Nature has abundant resources to supply vitalized food for the young, and it would seem, from all the plain teaching of Dame Nature, that the prime, necessary quality of food for the young is *vitality*. Contrary to this is the enthusiastic endeavor of the antibacteriologist to thoroughly devitalize all the food prepared for the baby. In the present state of society it seems inevitably necessary to endeavor to pass some of the young through babyhood by the use of artificial foods. Of all the artificial foods easily procured and abundantly supplied, the milk of the dairy cow is universally admitted to be the best. Unfortunately, however, the cow is a delicate animal, subject to many diseases that affect the milk perniciously, and her keeper is careless, often allowing the milk to become contaminated from many sources. The proper sterilization of cows' milk, when used for infant food, without doubt eliminates or neutralizes many of these disturbing influences, and the work of Dr. Soxhlet, Dr. Caillé, and others, has been, without doubt, of great value during the present condition of the dairies and the milk supplied to large cities.

---

* Read before the New York County Medical Association, March 16, 1891.

But the apparent satisfaction that has taken possession of many at the idea of sterilization as having solved the problem of infant feeding may possibly delay the absolutely necessary reform that is required in the dairy itself. Cows that are absolutely healthy, receiving proper food and care, neither pregnant nor ovulating, supply a milk which, if properly guarded, retains much of its vitality and is absolutely the best artificial nourishment for the human young. Sterilizing milk obtained under these conditions robs it undoubtedly of much of its nutritive value. Dr. Raudnitz, of Prague, in Hoppe-Seyler's *Journal for Physiological Chemistry*, shows that much less nitrogenous material is absorbed from milk that has been boiled than from the same milk when fresh. He shows that 9·4 per cent. of nitrogenous material was retained in store by growing animals fed on fresh milk, and only 5·7 per cent. was assimilated by the same class of animals fed on boiled milk. It is a common observation that calves fed on fresh milk have what is apparently a normal yellow liver, which makes a very tasty human food, while those fed on the artificial foods of the dairy—boiled skimmed milk, hay-tea, and so forth—have a liver very dark in color, tough, and not at all tasty like the normal tender liver of young life. How much the vitality of the food has to do with this condition of the liver can only be inferred, but it does seem that one of the absolute requirements of perfect nutrition is that some article of diet must be fresh—that is, must retain its vitality—or, in other words, be not absolutely dead. Scurvy is one of the diseases which result from a devitalized diet—that is, one which excludes fresh living vegetable or animal matter. Now, what vitality is, it is almost impossible in the present state of our knowledge to define. With the animals we regard consciousness as one of the phenomena of vitality; but the absence of consciousness does not indicate death of the tissues. Vitality in vegetables is the principle that allows them to grow and reproduce; a vegetable would be absolutely dead when it will not grow under proper and favorable conditions. The egg of the hen, which is by common consent classified as a perfect food, because under proper conditions it builds up a perfect, organized, and living body, if sterilized, can by no possibility reproduce a living chick. Many articles of food, undergoing decomposition by reason of the living germs they contain, possess more or less of the vital principle, which in this case, of course, belongs to the germ. All around us vital processes are taking place in bodies which we call dead, and when human beings are placed in a position that precludes them from the possibility of obtaining some articles of diet not dead, they suffer from scorbutus, and when suffering from this disease the ingestion of food, whether it be animal or vegetable, that still retains some vitality, causes the morbid conditions to subside. In arctic regions, when men are deprived of fresh vegetables, they eat their meat raw. The general impression derived from medical text-books is that fresh vegetables are necessary for the cure of scurvy, but both Hall and Kane aver that the fresh raw meat is just as efficacious. Fresh cooked meat is not in any sense an antiscorbutic. We have many accounts of soldiers suffering from scurvy where fresh cooked meat has been a regular article of diet, and all the antiscorbutics (with one exception—lime-juice) are nutritive materials that are not sterilized—or, in other words, that retain some degree of vitality. It is not necessary that a child should absolutely suffer from scurvy to indicate that its food is improper. There are undoubtedly a certain number of pathological conditions that are compatible with life, but the ability to resist disease and enjoy life is, beyond doubt, lessened by some conditions of nutrition, and, as the proper and natural nourishment of the young is a product from living tissues, itself undoubtedly containing some vital principle, it follows that children, as well as adults, require food not devitalized by heat, sterilization, or preservatives. The heat necessary for the sterilization of milk, as practiced at present, undoubtedly lowers its nutritive value in other ways than by depriving it of whatever vitality it may have been possessed of. The soluble albumin is made insoluble, and many of the salts held in solution are precipitated, and thus become also insoluble; but, of course, the lowering of the nutritive value of a food is far preferable when the sterilizing process eliminates or neutralizes absolutely poisonous principles or materials, and if it were beyond the reach of the powers that be to improve the milk supplied for infant feeding, we would all favor the present mode of sterilization, even while fully aware that the food is not perfect.

But it is within the lines of human possibility to improve the dairy and thereby render the milk more nutritious and more free from those disturbing elements which render sterilization necessary. The cow herself should be sterilized; the removal of the ovaries from the milking cow at once eliminates from the dairy one of the great sources of disturbance as affecting both the nutritive properties of the milk and the pathological conditions thereof. A cow that is supplying from her own system the necessary material to build up a fœtal calf can not possibly at the same time secrete a milk that is not deprived of some of its nutritive elements. The bulling cow, under the excessive nervousness that accompanies ovulation, secretes a milk intensely acid and possessed of a bad odor, which indicates a morbid condition of the fluid. Abortions in the dairy are common, and much of the bad milk which finds its way to the markets in our cities is decidedly bad from this cause alone. Retained placenta with all its train of morbid conditions is common in the dairy of breeding cows. All these disturbing influences are eliminated by the proper sterilization of the cow. I hope to see the day when the dairies that supply baby food shall be composed of spayed cows alone; and when the public recognize the present bad condition of the baby-food dairies, then the law will undoubtedly separate the breeding from the dairying in animal industry, and one of the greatest advances will be achieved in the artificial feeding of children by sterilizing the cow and allowing the infant fresh food.

A PECULIAR ARRANGEMENT OF THE SUBCLAVIAN ARTERY AND ITS BRANCHES.

By J. G. SHERRILL, M. D.,
LOUISVILLE, KY.;
DEMONSTRATOR OF ANATOMY IN THE KENTUCKY SCHOOL OF MEDICINE.

The following cases recently came under my observation in the dissecting-room of the Kentucky School of Medicine:

Case I.—The left subclavian in this subject pursued a course differing from the one usually taken by passing between the fibers of the anterior scalenus and lying in front of its ordinary position. This, however, occurs with sufficient frequency to be mentioned in the works on anatomy, but I find no mention of such peculiarities as were found in the branches of this artery. The inferior thyreoid arose by a separate trunk from the first portion of the artery; the suprascapular and transversalis colli, by a common trunk from the same portion. The internal mammary arose from the third portion, below the point of exit from between the fibers of the scalenus, and passed inward behind the scalenus anticus to the cartilage of the first rib; thence it followed its usual course.

Case II.—In this subject the left internal mammary arose from the thyreoid axis, instead of directly from the subclavian, the thyreoid axis giving off, besides, its usual branches. On the right side, in both subjects, the artery presented nothing peculiar either in course or in branches.

The Good Samaritan Dispensary opened its new building for inspection on Tuesday afternoon, the 16th inst. It is situated at the corner of Broome and Essex Streets, in the heart of a densely peopled tenement-house district, where there can not be too many institutions for the relief of the sick poor.

THE
NEW YORK MEDICAL JOURNAL,
A Weekly Review of Medicine.

Published by
D. Appleton & Co.

Edited by
Frank P. Foster, M. D.

NEW YORK, SATURDAY, JUNE 20, 1891.

THE ACTUAL NUMBER OF TUBERCLE BACILLI WHICH MAY BE PRESENT IN TUBERCULOUS SPUTUM.

Dr. George H. F. Nuttall, of the Johns Hopkins University, describes in the last number of the *Johns Hopkins Hospital Bulletin* a method by which he has been able to make accurate estimates of the actual numbers of tubercle bacilli present in tuberculous sputum. His communication is accompanied by cuts of the apparatus used. The methods heretofore employed for estimating simply the relative number of tubercle bacilli in sputum are condemned as unscientific. Nuttall's observations for the first time give us an idea of the enormous number of tubercle bacilli which a patient may expectorate in the course of twenty-four hours. In three cases undergoing the Koch treatment observations on the numbers of bacilli in the sputum were made every few days. In the first case the patient expectorated 2,000,000,000 bacilli during the twenty-four hours. After the patient was inoculated with tuberculin the number rose to between 3,000,000,000 and 4,000,000,000. After the inoculations ceased the number fell to what it had been originally. In the second case the number of bacilli varied between 20,000,000 and 165,000,000 on the days preceding the Koch inoculations, rose irregularly to 283,000,000 after the first inoculation, and fell to only 265,000 by the time the sixteenth inoculation had been reached. The third case showed a decrease from 70,000,000 before the inoculations to 12,000,000 and 19,000,000 after the treatment had been begun. A great rise in the number of tubercle bacilli in sputum was observed in the case of one patient (not undergoing the Koch treatment) to occur simultaneously with the appearance of elastic tissue. The number of bacilli in this case rose from between 300,000,000 and 400,000,000 to over 4,000,000,000. The accuracy of the method is shown by a number of test and culture experiments. Nuttall believes his method will prove valuable in any experiments where it is desirable to introduce a definite number of organisms into culture media, disinfectants, etc. In point of accuracy, it far surpasses the loop method generally employed. With such organisms as the tubercle bacillus this method will enable the experimenter to determine the number he is inoculating into an animal in a way that has not been possible hitherto. Inoculations made under such conditions will clearly show the difference in degree of virulence possessed by various organisms, as also the relation between the number of bacteria introduced and the progress of the disease. This method, finally, brings us a step nearer to solving the problem of the significance of involution and degeneration forms of bacteria.

MINOR PARAGRAPHS.

FRACTURE OF THE CLAVICLE FROM THE "KICK" OF A RIFLE.

In the June number of the *Edinburgh Medical Journal* Mr. James B. Simpson records the case of a member of a rifle club, a strongly built slate-quarrier, thirty years old, who, after having fired several shots at 200 yards, feeling a "kick" not severe enough to cause actual pain, fired several more at 500 yards, lying down and resting on his elbows, and finally a shot at 600 yards, likewise in the prone posture. This shot broke the clavicle near its middle. The fracture was treated according to Sayre's method, and healed well. "When he recovered," says Mr. Simpson, "I asked the man to show me how he held his rifle while firing at 500 and 600 yards. On his raising the 'sight' and lying down and taking aim, the explanation of the fracture was clear. Instead of holding the butt of the rifle well on to his shoulder, he rested the upper end of the butt directly on the most prominent part of the clavicle. One could easily pass one's hand between the lower two thirds of the butt and the man's chest, and it was therefore clear that when he fired all the force of the recoil came upon the clavicle. The farther he retired from the target the more he necessarily elevated the muzzle of the rifle, and consequently the more did the upper end of the butt rest upon the clavicle, until at 600 yards so entirely was this the case that the bone gave way under the concentrated force."

LITHOLAPAXY.

Litholapaxy, as is well known, is the name that was applied by the originator of the operation, the late Professor Bigelow, to the crushing of a vesical calculus and the immediate removal of the *débris* by means of a stream of water passed in and out of the bladder through the cannula of an evacuator. Litholapaxy and lithotrity have been understood in all parts of the world to denote two different operations. It can not be maintained that they are unsuitable terms or convey erroneous impressions, and there is no reason to attempt to change their meanings, as Mr. Edwards proposes in the *British Medical Journal* for May 9th. That gentleman advocates the restriction of the term litholapaxy to the removal of small stones from the bladder by means of the evacuator without crushing, and the substitution of the term lithotrity for the combined crushing and evacuation. Such a change could be productive of no benefit, but would of necessity be the occasion of almost inextricable confusion and of many misunderstandings. If a distinctive term is needed to designate the removal of small stones without crushing by means of the evacuator, it would certainly seem preferable to coin a suitable word rather than to attempt to rehabilitate a crude operation with the glory of a better one.

THE SUSPENSORY LIGAMENT OF THE CRYSTALLINE LENS AND THE LENS CAPSULE.

In the *Proceedings of the Royal Society* for February 5, 1891, Dr. Anderson Stuart combats the general notion that there is a direct continuity of substance between the suspensory ligament of the crystalline lens and the capsule. He suggests that the suspensory ligament is *only cemented to the capsule*. The observations upon which he bases this suggestion are: On opening oxen's eyes in an advanced state of decomposition he found the lens free in the interior of the eyeball, but still inclosed in its capsule. On opening the capsule, the lens substance escaped, and, on strict examination of the capsule in various ways, he failed to find any indication of a rupture of tissue. The zonula seemed to come away intact, not broken or torn away. Decomposition appeared to have weakened the cohesion of some cement substance by which the zonula adhered to the surface of the lens capsule. This observation seems to weaken the argument for an outer layer of the capsule being of connective-tissue origin, and it may throw some light on cases of solution and atrophy of the suspensory ligament, on cases of detachment of the ligament from its insertions, and on cases of luxation of the lens. It certainly has a direct bearing on the unsettled question of the development of the lens capsule.

A CURIOUS VIOLATION OF PROFESSIONAL SECRECY.

The *Lancet's* Paris correspondent says that the Municipal Council of Paris had recently brought under its notice a curious violation of what is laid great stress on in France—viz., professional secrecy. The administration sold as waste paper several large bundles of medical reports, dating from 1873, containing the official notification of the demise of people, giving names, diseases, and other details of a private nature. The retail dealers in certain quarters bought the waste paper and used it to wrap up their wares in when disposed of to the public, who had thus ascertained particulars about the immediate ancestors of their neighbors by no means desired by the latter. The Prefect of the Seine, being appealed to, decided that for the future such documents should be destroyed and not sold.

IMMUNITY FROM TETANUS.

Diseases like diphtheria, cholera, and tetanus, which are caused by toxic products generated by the parasites after entering the organism, may repeat themselves in the same person. M. Vaillard, however, states, in the *Comptes rendus de la Société de biologie* for February 21st, that it is possible to procure immunity from tetanus in rabbits by injecting a sterilized culture hypodermically into the veins. The culture must be kept beforehand for an hour at a temperature of 60° C. (140° F.); at this temperature the virus becomes considerably attenuated. During a period of several days about 20 c. c. of the poison should be injected. The intravascular is preferred to the hypodermic method. A temperature of 65° C. (149° F.) destroys the toxic element of the poison, and the latter does not then procure immunity when injected.

ITEMS, ETC.

The British Journal of Dermatology will in future be under the direction of a committee, consisting of Dr. H. G. Brooke, Dr. H. Radcliffe Crocker, Dr. T. Colcott Fox, Mr. Malcolm Morris, Dr. T. F. Payne, and Dr. J. J. Pringle, the latter of whom will be the acting editor. As these gentlemen will have the co-operation of Mr. Jonathan Hutchinson, Dr. Robert Liveing, Dr. McCall Anderson, Dr. Allan Jamieson, and Dr. Walter G. Smith, it will, says the *Edinburgh Medical Journal*, be thoroughly representative of British dermatology.

The Annales d'oculistique.—According to the *Union médicale*, this old and well-known journal of ophthalmology, hitherto published in Brussels, is now to be issued in Paris.

Changes of Address.—Dr. John B. Hamilton, from Washington, D. C., to the Sherman House, Chicago; Dr. Henry B. Hitz, from Washington, D. C., to the Philadelphia Hospital, Philadelphia.

The Maine General Hospital.—It is announced that this institution, situated in Portland, is to receive the sum of $50,000 under the will of the late Mr. Joseph Walker.

Dr. Simon Baruch asks us to state that he has no office in Lexington Avenue.

Naval Intelligence.—*Official List of Changes in the Medical Corps of the United States Navy for the week ending June 13, 1891:*

Alfred, A. R., Assistant Surgeon, from Naval Hospital, Norfolk, and to the Fern.

Stoughton, James, Assistant Surgeon, to duty at Navy Hospital, Norfolk, Va.

Young, L. L. S., Assistant Surgeon, to duty at Naval Station, Port Royal, South Carolina.

Hoehling, A. A., Medical Inspector. Ordered as member of Naval Medical Examining Board.

Streets, T. H., Surgeon. Ordered to duty on the U. S. Steamer Bennington.

Waite, P. S., Medical Director. Ordered as delegate to represent Medical Corps of Navy to the International Congress of Hygiene and Demography at London, England.

Society Meetings for the Coming Week:

Monday, *June 22d:* Medical Society of the County of New York; Boston Society for Medical Improvement; Cambridge, Mass., Society for Medical Improvement; Baltimore Medical Association.

Tuesday, *June 23d:* Medical Society of New Jersey (first day—Long Branch); Buffalo Obstetrical Society; Medical Societies of the Counties of Essex (annual—Elizabethtown), Lewis (annual), and Washington (annual), N. Y.

Wednesday, *June 24th:* Medical Society of New Jersey (second day); New York Pathological Society; American Microscopical Society of the City of New York; Metropolitan Medical Society (private); Auburn, N. Y., City Medical Association; Medical Society of the County of Albany; Berkshire, Mass., District Medical Society (Pittsfield); Philadelphia County Medical Society.

Thursday, *June 25th:* New York Orthopædic Society; Lehigh Valley Medical Association (Mauch Chunk, Pa.).

Friday, *June 26th:* New York Society of German Physicians; Philadelphia Clinical Society; Philadelphia Laryngological Society.

Saturday, *June 27th:* New York Medical and Surgical Society (private).

Letters to the Editor.

HOW TO KEEP NEEDLES FROM RUSTING.

345 West Fifty-sixth Street, *May 15, 1891.*

To the Editor of the New York Medical Journal:

Sir: It would be an interesting point to determine how many of your readers are agreed regarding the best way of keeping their various surgical goods and chattels ready for instant use. In talking with other surgeons I find many opinions about it.

As to needles, for instance. I think the majority, after sterilizing them by heat, try to keep them dry. Dry sterilizing at the usual temperature is apt to injure their temper and cause subsequent bending during use; boiling or steam, to induce flecks of rust. Rust, too, results from occasional subsequent exposure to air; and if cotton or cloth is used, this attracts moisture. Should a film of vaseline or oil be applied as a protective, this causes dust to cling, and requires fresh cleansing before use. Glycerin I have tried and found wanting. In it, hygroscopic as it is, the needles do not remain entirely untarnished. They finally turn black.

For the past year I have been pleased with the results of a new plan—new to me, that is, though very probably not to others. This is simply to keep my needles in alcohol. For extreme safety against rust, I use absolute alcohol; but the commercial article would probably be efficient. At least, some needles which I have kept in common alcohol for a month as an experiment are as bright as ever.

Upon buying the needles, I immerse them in benzine to remove grease. Then, after running them through a towel, I plunge the point (a cutting-edge Hagedorn) into a bit of cork of the size of a pea—to avoid dulling from jolting—and finally, with their corks, they are put and kept in a wide-mouthed, glass-stoppered bottle filled with absolute alcohol.

After use, I sew through a thick, wet, soapy towel repeatedly, cleanse the eye with a thread, immerse in benzine, and finally replace in the alcohol. This last is certainly an efficient disinfectant, besides being an excellent protector against rust.

By the by, I long ago gave up using (save in bowel work) any other than Hagedorn *self-threading* needles, which are a decided comfort, and, when properly made, do not cut the thread. Robert H. M. Dawbarn, M. D.

POSTURE IN THE REDUCTION OF HERNIA.

Seaton, Ill., *May 11, 1891.*

To the Editor of the New York Medical Journal:

Sir: I had, on Saturday evening last, a case which well illustrated the principles set forth in Dr. George H. Taylor's article, published in the *Journal* for April 25th.

About seven o'clock of the evening aforesaid I was called to see Mrs. R., who that evening had been digging in the garden. An hour or an hour and a half before my arrival she had developed a right, direct inguinal hernia. I found her with a hernia half as large as my fist, hard, tense, and painful; with great pain in the bowels and vomiting. After careful manipulation, finding that it would be impossible to reduce the hernia by taxis, I gave her repeated hypodermics of morphine sulphate to relieve the pain, subdue peristalsis, and prevent tympanites; elevated the hips on a board; applied ice to the tumor; and made repeated pressure, or "pulls," upon the bowels toward the diaphragm. A few minutes sufficed to produce a somewhat lessened tension in the tumor, and I felt that it would only be a question of time when reduction could be effected. Gradual diminution took place, and, finally, at 10.30, spontaneous reduction of the bowel took place, a portion of the sac still remaining down, but the latter was easily returned. I feel confident that this case could not have been relieved by taxis in the ordinary way, but a combination of taxis, posture, anodyne, and antiphlogistic easily effected a cure.

It is quite likely that many other cases, such as we have heretofore been accustomed to operate upon, might be relieved in the same way. There is, of course, nothing new in the postural treatment of hernia, *e. g.*, the hanging a man by his legs over the shoulders of another man—and then taxis. It is only in the application of the principle; the combination of gravity, atmospheric pressure, reversed rhythmical respiratory action, external abdominal pressure with the operator's hand, and persistent, patient waiting. Try it. Thomas A. Elder, M. D.

THE ATMOSPHERIC TRACTOR.

219 N. Twenty-second Street, Philadelphia, *April 27, 1891.*

To the Editor of the New York Medical Journal:

Sir: If the spirit of Dr. A. W. Herzog's letter of April 13th animated the entire medical profession, there would be an end to progress in obstetrics. Without having read Dr. Simpson's articles, or a full description of my tractor, he apparently concludes that my instrument is identical with Dr. Simpson's, and that every objection, no matter how unsubstantial, that was urged against the one is applicable to the other. If Dr. Simpson's critics had sought to remedy the defects of his aerotractor instead of expending their energies in assailing it, it would doubtless have been made a useful instrument, and the world would have largely gained thereby.

The *New York Medical Journal* of January 24th will show Dr. Herzog that I do not "profess" to have been the first to suggest the idea of utilizing atmospheric pressure as a means of affixing a traction device to the fœtus.

I do profess, however, to be the first to point out and to demonstrate that atmospheric resistance is one of the forces that retard delivery. I also profess to be the first to point out and to demonstrate that the expulsion of the child in labor is the result of the outward expansion of the intra-uterine air when compressed by the abdominal muscles, and that this same expansive force, when unrecognized or uncontrolled, is practically the only cause of rupture of the uterine body or cervix, rupture of the perinæum, and undue distention of the uterine or vaginal walls, ending in the various forms of prolapse. I also profess to have been the first to point out and to demonstrate that these accidents can be prevented by the introduction of a safety-tube within the uterus, by which the inner pressure can be lessened whenever it approaches the danger-point.

I also profess to be the inventor of the first practical, safe, and simple atmospheric tractor. It will not rupture the perinæum. It will not produce cephalæmatoma, but, even if it did in rare cases, such a trivial lesion, removable by one or two lancet incisions, ought not to count for much when compared with the graver injuries that are frequently the results of forceps delivery.

Peter McCahey, M. D.

THE TOXIC DOSE OF OIL OF TURPENTINE.

143 West Twenty-first Street, New York, *May 27, 1891.*

To the Editor of the New York Medical Journal:

Sir: Miss Helen Castle, daughter of a former Hawaiian missionary, informs me that the natives of the Sandwich Islands are so fond of drink that the native house-painters will drink oil of turpentine for its intoxicating effect when they are unable to obtain any other stimulant. They have been known to drink large quantities, as much as a pint at a time, without injury. The turpentine can was secreted, and when a workman required any to thin his paint he was obliged to ask for it, and watch was kept over him to see that the turpentine went into the paint-pot instead of his stomach.

From this statement it would appear that the toxic dose of this substance is far beyond any dose dreamed of by therapeutists.

W. H. Gregg, M. D.

QUALIFICATIONS FOR PRACTICE IN THE BRITISH DEPENDENCIES.

Spokane Falls, Wash., *April 16, 1891.*

To the Editor of the New York Medical Journal:

Sir: In your issue of the 11th inst. there is an extract from the New York *Daily News* that might be the cause of some young American physician's going to Australia to practice his profession, thinking his diploma would satisfy the boards of any of the principal colonies. Such, however, would probably not be the case, as it is entirely optional with the medical board whether they accept a diploma and grant a license or not, and they certainly will not, if the diploma is from any other than a three-year college. To illustrate, I will cite my own case. I am a graduate of Starling Medical College and of Cooper Medical College, the latter a strictly three-year school. I was refused registration in Queensland and Victoria, but after the second application was registered in New South Wales. Once the boards were not so particular, and registered a number of Americans, but they found often either that they were very poorly qualified or that they commenced doing a quack business, and I assure you that "Yankee doctors" are not in very great favor in the antipodes. I knew an A. M. M. D. Harvard who was refused registration, and am afraid if any one goes out there without money enough to get back to America with he will soon find himself glad to drive a street car, as I knew of five unfortunates doing at one time.

D. C. Newman, M. D.

Proceedings of Societies.

NEW YORK NEUROLOGICAL SOCIETY.

Meeting of June 3, 1891.

The President, Dr. Landon Carter Gray, in the Chair.

The Cerebral Atrophies of Childhood, with Special Reference to Surgical Treatment.—Dr. M. A. Starr read a paper with this title. He said that the propriety of surgical interference in cases of cerebral disease was one of immediate and increasing interest, and therefore one which should be frequently discussed by those who were in a position to reach decided opinions. There were so many forms of cerebral disease in which the possibility of operations might be admitted that a general discussion of the subject did not produce definite results; therefore he would devote his paper to a particular class of cases—*viz.*, the cerebral diseases of infancy and childhood. The immediate result of certain cerebral diseases in infancy was to produce definite symptoms, giving rise to three types of cases: First, cases of hemiplegia, with or without athetosis; secondly, cases of mental defects of various grades; thirdly, cases of sensory defects of various kinds. And since epileptoid seizures of the *petit-mal* or *grand-mal* type were frequently met with in any of these forms, and might perhaps be the particular symptom in regard to which advice was sought, it was evident that the discussion must include the surgical treatment of non-traumatic organic epilepsy in children. The symptoms of the first class were the sudden development of a unilateral paralysis after a series of convulsions, attended by high fever, other febrile symptoms, and a period of unconsciousness of varying duration, then a gradual improvement in the paralysis after all active symptoms of the onset had subsided. Finally, there was a stationary condition in which the face was hardly affected in its voluntary or automatic movements; the speech was usually regained if it had been lost; the arm was quite seriously paralyzed, the fingers being stiff and awkward, and sometimes being in constant, slow involuntary motion; and the leg was held rather rigid, so that the child limped in walking and sometimes had a club-foot. In all cases the paralyzed limbs were found to be affected in their growth and development, so that they were smaller, colder, stiffer, and weaker than the others; the reflexes were exaggerated, but the electrical reactions were not quantitatively changed and sensation was normal. This condition remained through life as a permanent defect. In over half of these cases epileptic attacks were of frequent occurrence. The cases which dated from birth must be divided into those in which there had been evidence of traumatism during labor and those in which there had been nothing about the delivery sufficiently unnatural to awaken a suspicion of trauma. In the former class it might be stated that cerebral hæmorrhage—usually meningeal—was the cause of the symptoms. In the latter class it was probable that an intra-uterine encephalitis or some unknown cause had prevented the fœtal brain from developing. The degree of spontaneous recovery in any case could be pretty well determined by an examination at the end of the second year; but it was evident from data on the question that a complete cure never occurred. The fits in organic epilepsy were more likely to be frequent and severe than in idiopathic epilepsy. These attacks did not destroy life, but, of course, rendered life a burden, and almost any means for their relief was countenanced. The second class of cases presented mental defects rather than physical symptoms—defects which could not be educated out of the patients, in which no amount of training could produce an appreciation of the fitness of things. The third class presented no motor or mental deficiencies. Those affected were capable of training, but had defects of sensory perception which indicated gross cerebral disease. Many cases of deaf-mutism belonged to this class, also cases of hemianopsia. In regard to this latter condition, the author gave the history of the case of a little girl, aged twelve years, who had suffered all her life from frequent attacks of *petit mal* and occasional attacks of *grand mal*. She had never been able to see objects approaching her from the left side. It was learned from the mother that the child had been born with much difficulty, that the labor had been prolonged, and that the head was greatly misshapen and had a large caput succedaneum over the posterior part. When the child's head was inspected it was found that there was a perceptible flattening of the skull over the right occipital region. The eyes, when examined, showed a contraction in the visual fields. It seemed reasonable to suppose that this patient had a defective development of the right occipital lobe of the brain, and that this involved the cortex and also the subcortical tract. Wilbran had shown that a purely cortical lesion produced symmetrical defects in the visual fields while subcortical lesions produced asymmetrical defects. The pupils, in the cases reported, responded to light thrown upon the blind field of the retina; hence the lesion was not in the optic tract. There had never been any hemianæsthesia or hemiplegia; consequently the lesion was not in the thalamus or near the internal capsule. The patient had been brought for treatment for epilepsy, and it was an important question to decide in regard to the possible benefit of surgical interference. The author thought that any solution of the problem of operative treatment must be based upon two considerations: first, the pathology of the cases, and, secondly, the results of experience when such operations had been done. From the records of the pathological conditions found, two facts were elicited. First, that the different clinical types were due to the different situation of the lesion rather than to its varying nature; secondly, that the various processes of disease had, as a fairly uniform result, a condition of atrophy with sclerosis of the brain. In cases of the first type the sclerotic atrophy involved the motor area of the brain, the central convolutions and their immediate vicinity, including the tract arising from them, and usually the basal ganglia as well. In cases of the second type the sclerotic atrophy involved the anterior portion of the brain, and sometimes the entire hemisphere to a greater or lesser extent. In the third type the sclerotic atrophy involved the posterior and lateral parts of the hemispheres. The hypothesis was that the origin of the disease lay in some interference with the blood supply of the part, since it had often been evident that the atrophy was limited to the region nourished by blood reaching it through one arterial trunk. This hypothesis was weak from the fact that at autopsies it was very rare to find vascular lesions in the brains of infants. Consequently the pathogenesis of these defects was as yet quite obscure. From the records of operations done in six cases of the first type it was evident that this method of dealing with the disease offered no relief. In regard to the second type, the author thought that the pathology contra-indicated an operation. To the third type, cases of sensory defects, there were no facts of a surgical kind to present, but, judging from the pathological resemblance between them and the first two classes, there was no reason to expect any different result from surgical treatment. It was concluded: That (1) in infancy and childhood mental defects, hemiplegia and sensory defects, of a year's duration, were usually due to an incurable atrophy of the brain substance. That (2) in such cases surgical treatment could not afford any relief, for there was no probability of an increase of intracranial pressure to be relieved; and the pathological state was one that could not be treated. That (3) the sudden onset of such symptoms in childhood, while awakening a suspicion of cerebral hæmorrhage, did not invariably indicate it and could not be made the basis for an operation, unless many other facts made the diagnosis quite clear. That (4) the occurrence of epilepsy in such cases might be made the basis of an operation, for, while the epileptic attacks were of organic origin and would persist, their frequency might be much diminished. In such cases the opening in the skull should not be filled by bone. It had seemed possible to the author that the existence of a movable connective tissue valve of scalp covering the opening in the skull and varying in its tension might have something to do with the cessation of the fits. In watching such a valve he had noticed great variation in its tension, and the idea of it as a safety valve had been forced upon him. Finally, he would urge upon neurologists the necessity of very great caution in recommending surgical interference in the class of cases which belonged to cerebral atrophies.

Dr. B. Sachs said that on the whole he was in agreement with the author of the paper, but that some of his views might be open to criticism. He thought that as a general proposition little could be gained in the treatment of the class of cases referred to by surgical operations, but that there was a decided field for the surgeon if the case was taken in hand early. He thought there was much more hope for these patients if they could be operated upon at the time of the initial lesion, before degenerative changes had taken place. He considered it worse than useless to operate in a case of sclerosis or porencephalia. He thought Dr. Starr was mistaken in saying that in every case there must be wide-spread secondary degeneration. Secondary degeneration did follow many diseases of the brain, but not in all cases, he was satisfied. The speaker was convinced that much good was done by the puncture of old hæmorrhagic cysts; he had seen the epileptic attacks very much diminished by this procedure. In the radical treatment of cerebral atrophies, unless the entire diseased area was removed, no good could come of an operation. In regard to the safety-valve question, nothing could be gained by such an operation unless the dura was opened; even then, if epileptic attacks were to be cured, the center from which they emanated would have to be excised. This latter operation might leave the patient with a paralysis, but with a cure of the epilepsy; which of the two was the greater evil would have to be determined by those most interested. Where there was not thought to exist a sclerotic condition, and where it was supposed the initial lesion could be attacked, an operation might be done, but it must be borne in mind that children did not bear surgical operations upon the brain as well as adults. The speaker did not see how Dr. Starr could make the statement that the growth of the skull and that of the brain were necessarily synchronous, when their growth was independent each of the other; however, when the skull cased to be yielding, the brain was certainly at a disadvantage.

Dr. H. D. Chapin said that too early closure of the fontanelles was supposed by some to prevent evolution of the brain, but it was a question whether the closure was due to the microcephalia or the reverse. As to an operation in these cases for the purpose of giving the brain more room, the speaker thought it just as well to let them alone, considering that it was not known whether the early closure had anything to do with the condition or not.

Dr. E. D. Fisher was in favor of an operation in the class of cases referred to by the author of the paper. As soon as the first symptoms, such as convulsions, and so on, appeared, even if this was during the first week of life, he would recommend operation, and at any time if the case was seen before degenerative changes had taken place; even then he was not sure that an operation might not do some good toward altering cell growth and promoting improvement. Of course, if a case was diagnosticated as one of porencephalia, an operation should not be done. The speaker reported about thirty cases of hemiplegia in which the measurements of the brain showed a very appreciable diminution on the diseased side. He thought that this was conclusive evidence of the condition, and that by operation something might be done to excite nutrition and growth.

Dr. W. R. Birdsall was glad to indorse Dr. Starr's conservative views in regard to operative procedures in this class of cases. Dr. Sachs had referred to irritation of the cortical lesion, which might set up beneficial changes. The speaker thought that it could just as well bring about a worse condition of affairs. As to many of the so-called atrophies, he thought that arrest of cerebral growth might take place without a true atrophy, that the cells retained their original condition without degenerative changes taking place. He thought that many of the cases of retarded development were of this type, rather than of sclerotic atrophy. As to operating in such cases, he would like to know what operators expected to find, and when they had found something what they would do with it, and what good they could expect from such procedures. He thought that Dr. Starr's idea of a safety valve for the purpose of giving the brain more room was far-fetched, inasmuch as the original trouble, whatever it was, caused an arrest of both brain and cranial growth. He might operate in cases of disturbance of the circulation, where the indications were clear and where the point of disease was likely to be found, but there was a great difference between operating in such cases and splitting open a microcephalic skull for the purpose of letting the brain grow.

The President had seen many operations for infantile atrophies, and had yet to see any good come of it, and, furthermore, he could not see how benefit could be expected from surgical interference in such cases. How could an operation do any good at the time of an inflammatory attack of the brain? and how could it be of service when secondary changes had taken place? If the sclerotic area was cut out, would there not be left behind a similar condition of cicatrix and contraction? He thought that for records of cure in cases of operation for cerebral epilepsy to be of value they should not be reported too soon, for the history of some cases without treatment showed spontaneous recovery and the attacks had not returned for years. He was satisfied that Dr. Starr was laboring under a misapprehension in thinking that premature ossification of the fontanelles induced brain pressure, although cases of epilepsy had been reported as due to this cause. He thought that more was expected in the surgery of cerebral atrophies than would ever be realized.

Dr. Starr said it was all very well to talk of operating early in these cases, as one of the speakers had proposed, but who was to make such an absolute diagnosis and to decide when and when not to carry out such serious procedures?

Book Notices.

A Practical Treatise on Diseases of the Skin. By Henry G. Piffard, A. M., M. D., Clinical Professor of Dermatology, University of the City of New York, etc., assisted by Robert M. Fuller, M. D. With Fifty Full-page Original Plates and Thirty-three Illustrations in the Text. New York: D. Appleton & Co., 1891. 4to, pp. vi-157.

The author of this book is so well and favorably known to the medical profession of the world that he needs no introduction at our hands. His two excellent books—namely, *An Elementary Treatise upon Diseases of the Skin*, New York, 1876; and *A Treatise on the Materia Medica and Therapeutics of the Skin*, New York, 1881—deservedly met with high encomiums. The latter of these should be on the shelves of every one at all interested in dermatology. The work now before us is such a one as we should expect from the author's other writings. And we are not disappointed in our expectations. The author's long experience as a teacher enables him to place each subject before us in word pictures as clear and unmistakable as his photographs. He has written for the general practitioner and not for the specialist, and has given him what he wants—a description of each disease unobscured by controversial and theoretical discussions as to pathology and ætiology. He has given us the result of his own experience in treatment, and has told us just what we can expect to accomplish. When we have finished reading all he has been pleased to write, we have but one regret, and that is that he has only seen fit to discuss fifty-four out of the hundred and more diseases of the skin.

The chapter upon diagnosis is the most masterly treatise upon that subject that we have seen, and worthy to be published as a separate pamphlet and put into the hands of every student. In it are given a description of the primary lesions and a list of the diseases in which each occurs as the prominent one, with an account of the various appearances and groupings it may assume under varying conditions. Dr. Piffard regards internal causes as more common and important ætiological factors than external ones, and believes that about one third of all cutaneous diseases arise from the accumulation of certain *materies morbi* in the blood. To a consideration of eczema twenty-nine pages are devoted. This disease he regards as due to internal derangements plus an external irritant, and believes that no external agent alone is capable of producing a true eczema. He holds that errors in liver digestion with imperfect or inadequate excretory action on the part of the kidneys is the foundation of the underlying condition for the origin of the disease. He teaches that lupus vulgaris, lupus erythematosus, and lupus exedens are all phases of one disease, and that a history of pulmonary phthisis is an almost constant feature in it. For him, lupus exedens, that is usually regarded as an epithelioma, is a lupus upon which an epithelioma has been grafted.

The chapter on sarcoma, contrary to what obtains in most books on skin diseases, is a most satisfactory one. The author thinks that Unna is wrong in speaking of seborrhœal eczema, because the discharge from it is oleaginous and not plastic, and forms with liquor potassæ a non-adhesive emulsion and not a sticky layer. He protests against such unscientific names as purpura variolosa, purpura urticata, and the like. He comes out squarely for the non-identity of lichen ruber and lichen planus. He does not accept psorosperms as parasites, but believes them to be rete cells undergoing a species of corneous degeneration, and supports his thesis by an ingenious appeal to the polariscope.

We have noticed the following peculiarities of treatment: Eupatorium is commended as the best vegetable cholagogue.

Viola tricolor, internally, is recommended in eczema of the head. Peroxide of hydrogen is regarded as being one of the best applications in the early exuding stages of eczema. Scarifications he uses in some cases of thickened eczema scroti. In seborrhœa good results are to be obtained by the use of gelatinous precipitated silica made by adding a dilute solution of silicate of sodium to dilute hydrochloric acid. He commends the local use of chrysarobin, both in acne and in rosacea; and the administration of chloride of gold in syphilitic necrosis of bones.

In the way of original nomenclature we would note the use of the term nudose eczema for squamous eczema; dermatitis multiformis for dermatitis herpetiformis; sudolorrhœa for seborrhœal eczema; and mamillitis maligna for Paget's disease of the nipple.

The foregoing brief notices will sufficiently indicate the freshness of the text. The photographic full-page illustrations, uncolored, are all by the authors, and number fifty. Many of them are marvels of the photographic art and proofs of the reliability of the flash light as a method of illumination. We would specially commend plates 1, 3 to 7, 26, 30, 39, 40, 42, 44, and 48. They are reproduced here by the gelatin process. The half-tone illustrations in the text, especially figures 1, 11, 25, 26, and 28, are very beautiful. It is remarkable what a vivid impression of a skin disease is conveyed by these pictures without the aid of the painter's brush.

The publishers of this atlas have done their work well, and have given us a book printed from beautiful type upon heavy, finely finished paper, forming a combination most pleasing to the eye. In a rather careful reading of the text we have detected but few typographical errors, and these errors are so slight that they do not mar the book or impair our judgment that this work is a credit both to the author and to the publishers.

BOOKS AND PAMPHLETS RECEIVED.

A Practical Treatise on Diseases of the Skin. By Henry G. Piffard, A. M., M. D., Clinical Professor of Dermatology, University of the City of New York, etc., assisted by Robert M. Fuller, M. D. With Fifty Full-page Original Plates and Thirty-three Illustrations in the Text. New York: D. Appleton & Co., 1891. 4to, pp. vi–157.

Quain's Elements of Anatomy. Edited by Edward Albert Schäfer, F. R. S., Professor of Physiology and Histology in University College, London, and George Dancer Thane, Professor of Anatomy in University College, London. In three volumes. Vol. I, part ii, General Anatomy, or Histology, by Professor Schäfer. Illustrated by nearly 500 Engravings, many of which are Colored. Tenth Edition. London and New York: Longmans, Green, & Co., 1891. Pp. v–171 to 431—xi. [Price, $4.]

Manual of Childbed Nursing. By Charles Jewett, A. M., M. D., Professor of Obstetrics and Diseases of Children at the Long Island College Hospital. New York: E. R. Pelton, 1891. Pp. 40.

The Influence of Bile on the Fat-splitting Properties of Pancreatic Juice. By B. K. Rachford, M. D. [Reprinted from the *Journal of Physiology.*]

A Plea for Public Baths, together with an Inexpensive Method for their Hygienic Utilization. By Simon Baruch, M. D., etc. [Reprinted from the *Dietetic Gazette.*]

Philadelphia Hospital Reports, Volume I, 1890. Edited by Charles K. Mills, M. D., Member of the Neurological Staff. Philadelphia: Detre & Blackburn. Pp. xii–353.

The Treatment of Lacerated and Contused Wounds. By G. W. Crile, A. M., M. D., Cleveland, Ohio. [Reprinted from the *Cleveland Medical Gazette.*]

The Construction and Adaptation of Spectacle-Frames. By Charles Hermon Thomas, M. D., etc. [Reprinted from the *Transactions of the Philadelphia County Medical Society.*]

Does Segregation diminish the Prevalence of Pulmonary Consumption? By Thomas J. Mays, M. D., Philadelphia. [Reprinted from the *Sanitarian.*]

Reports of the Friends' Asylum for the Insane, presented at the Annual Meeting, 1891.

Reports on the Progress of Medicine.

GENERAL SURGERY.

By MATTHIAS L. FOSTER, M. D.

The Treatment of Malignant Neoplasms.—In 1883 von Mosetig-Moorhof, after very many failures in the attempt to discover a satisfactory treatment for inoperable cases of malignant disease, was so fortunate as to secure a good result from the parenchymatous injection of a solution of aniline trichloride into a sarcoma of the inguinal glands (*Wiener klin. Wochenschrift*, No. 6, 1891). He was led to try this means by consideration of the fact that in preparations the nuclei freely took up the coloring matter and retained it for a certain time. If he should attempt to stain the new growth in the living body, the cell nuclei of the sound tissues would perhaps be only temporarily affected, while the cell nuclei of the neoplasm, which possess less power of resistance, might be so affected as to check the growth, or perhaps lead to necrobiosis.

But aniline trichloride caused such disagreeable and even alarming symptoms that, after a few more trials, it was abandoned. When Stilling lately recommended methyl violet, under the name of pyoctanin, and asserted its harmlessness as regards the general organism, von Mosetig-Moorhof was encouraged to resume his former experiments and to try this preparation upon inoperable malignant neoplasms. The results in his cases are noteworthy, although they seem incomplete. The first of the cases which he describes was that of a sixty-six-year-old woman, with a sarcoma of the lower jaw as large as a man's fist. After several weeks of treatment, the tumor had decreased to one third of its former size, and there had been a proportionate amount of relief from the trouble caused by the tumor. In another case a cysto-sarcoma in the region of and below the left sterno-clavicular articulation became considerably smaller after twelve injections, of six grammes each, of a 1-to-300 solution of methyl violet. In a villous cancer of the bladder, which gave rise to very severe pain, marked relief of the subjective symptoms was obtained by the application of methyl violet. Of special interest is the result in a case of an inoperable, rapidly growing sarcoma of the pelvis, which pressed upon the intestine so as to occlude it, and to call for the formation of an artificial anus. After fourteen injections, of three grammes each, of a 1-to-500 solution of methyl violet the tumor had become much smaller, and there had been an almost complete disappearance of the troubles dependent on compression of the neighboring organs.

The author says that as much as six grammes of a 1-to-300 solution can be injected at once without danger or pain. The injections must be carried into the deepest parts of the tumor in order to color it in all its parts, and they may be repeated every two or three days.

Grün (*Brit. Med. Jour.*, April 25, 1891) failed to obtain as good results in a case of cancer of the breast, into which he injected daily ten minims of a 1-to-300 solution of methyl violet in sterilized water for twenty days. The first ten injections produced no pain or inflammation. After the tenth injection there was a slight redness of the skin, which increased after each subsequent injection; suppuration was present on the fifteenth day, and after the twentieth injection the breast was amputated. The growth was a scirrhous cancer, and presented under the microscope no alteration which could be attributed to the methyl violet. No degeneration of the cancer structure could be observed around the growth.

The Surgical Treatment of Basedow's Disease.—Lembke (*Deutsche med. Wochenschrift*, No. 2, 1891) advocates in no uncertain terms the surgical over the medical treatment of this disease, and bases his advocacy upon the good results which he has observed after extirpation of the goître in two well-marked and undoubted cases. The first case was that of a painter's apprentice, seventeen years of age, who had suffered from Basedow's disease for two years. The goître became so large as to interfere with respiration, and he was finally brought to the clinic in order to have tracheotomy performed. A week after this operation the left—the greater—half of the goître was removed without special difficulty except about the trachea. The wound was packed with iodoform gauze, and a few days later was closed with secondary sutures. The exophthalmia and other symptoms quickly disappeared, and seven months later the patient presented the appearance of a healthy young man. This result encouraged Lembke to perform a similar operation on a shoemaker, forty-seven years of age, who was suffering from the same disease. In this case the right half of the goître, which was of about the size of a small fist, was extirpated. The hæmorrhage was considerable, but the patient survived, the exophthalmia disappeared, and the action of the heart, which before the operation had been arrhythmical and extremely rapid, became greatly improved.

Luxation of the Inner End of the Clavicle Forward.—Kornfeld (*Deutsche med. Wochenschrift*, 1891, No. 3) reports a case of this rare dislocation. It was caused by lifting a heavy weight with the right shoulder. The patient was conscious of a cracking in the region of the inner clavicular articulation on the right side, of a numbness of the arm with formication, and of a sense of weight in the entire upper extremity. After the accident he was unable to use the arm to any great extent. Examination revealed a prominence on the sternum formed by the sternal end of the clavicle, which had passed between the two ends of the sterno-cleido-mastoid muscle. This tumor could be moved over the manubrium in an area of about a centimetre. The arm could not be lifted to a horizontal position.

Foreign Bodies in the Air-passages.—Sprengel (*Ctrlbl. f. Chir.*, No. 14, 1891) maintains that the location of a foreign body in the bronchi can often be readily and definitely settled by means of auscultation. It is usually assumed that, if the air does not pass into one lung, the corresponding bronchus is completely closed by the foreign body, and if the closure is incomplete a sibilant sound will be heard on inspiration at the seat of impaction. Sometimes, however, such determination of the location of a foreign body is difficult. In proof of this, a case is cited of a little girl who suffered much dyspnœa on account of the presence of a foreign body in the air-passages. A sibilant inspiratory sound was heard over the right bronchus, while on the left side respiration was almost inaudible. Tracheotomy was performed and a large, hollow bead, oval and open at each end, was found occupying the entire lumen of the trachea, just above its bifurcation. The author explains the auscultatory signs by supposing that one end of the bead was fixed in the upper part of the right bronchus and occluded the orifice of the left bronchus. Thus the air could not enter the left lung while it passed through the tube formed by the bead into the right, and perhaps an occasional occlusion by mucus was the cause of the severe dyspnœa and of the sibilant sound during inspiration. This case shows that a hollow or tubular foreign body fixed in the lower part of the trachea may, by the signs it produces, lead to the diagnosis of its fixation in one of the bronchi if the air enters one lung and does not enter the other. Hence the absence of respiratory sounds over one side of the chest, or the presence of a sibilant sound over one bronchus, can not be considered diagnostic of a foreign body in a bronchus unless it is known that the foreign body is solid and not tubular.

Infection and Tumor-formation.—Schleich (*Deutsche med. Wochenschrift*; *Ctrlbl. f. Chir.*, No. 15, 1891) advances some peculiar views on this subject. He considers tumors to be too highly organized formations to be caused by a special virus or by a bacterium, and has been seeking a hypothesis upon which to base their ætiology. The hypothesis which he has finally adopted is that the formation of tumors is due to a sort of endogenous infection. According to his theory, the formation of new tissue in a tumor is analogous to the growth of a fecundated egg, and the tumors themselves are the products of pathological generation and fructification. The impregnating forms the infectious cell, and any tissue cell may become such if at a certain stage of its physiological development it is exposed to irritation. As the author has not yet succeeded in observing the tissue cell at the moment of conjugation or at the time when it commences to be infectious, he is obliged to have recourse to the analogy of the fecundated egg-cell to explain its development. He considers that the stage in which a cell may become infectious is present at the moment when its power of growth is extinct and it is wavering between death and a new lease of life.

A Modification of the Laryngeal Intubation Tube.—Egidi (*Riforma med.*, Jan. 5, 1891) criticises the intubation tube of O'Dwyer as being too long and narrow, and on account of its being closed by the obturator when introduced. He employs a shorter and wider cannula and a hollow obturator, and alleges for this combination certain advantages, the main one of which is that the respiration of the patient is not interrupted by the introduction of the cannula.

Congenital Absence of the Radius.—Geissendörfer, in an inaugural dissertation (*Ctrlbl. f. Chir.*, No. 15, 1891), describes a case in which there was a complete absence of the radius in each arm. Both hands had five well-formed fingers. He says that, according to Gruber, absence of the radius has heretofore been noticed only when associated with club-hand and absence of one or more fingers or one or more carpal bones.

An Operation for Naso-pharyngeal Polypi.—Baracz (*Ctrlbl. f. Chir.*, No. 16, 1891) describes a method of removing polypi of such a size as to be incapable of removal by forceps through the nostrils. Cocaine anæsthesia is employed. An incision is made through the lip just to one side of the median line and carried up through the fleshy part of the nose on one side of the septum as far as the nasal bones. If the growth should be very large, the nasal bone may be cut and turned aside along with the flap of skin. This flap is grasped by an assistant, and the nasal aperture enlarged with a bone forceps if necessary. One finger can then be introduced into the nostril and another behind the soft palate, and the polypi enucleated with the finger-nail. Baracz says that the entire nasal cavity as far as the base of the skull can be got at, and that as much can be accomplished by this as by the severer operation of Langenbeck. The edges of the wound are accurately adjusted and only a linear scar remains. In children an anæsthetic must be employed.

Excision of Chancres.—Jullien (*Ann. des maladies des org. gén.-urin.*, April, 1891) speaks very highly of this operation. Its details are very simple, and healing by first intention is usually secured. He has operated on eighteen cases, in two of which the chancres completely reappeared. The induration returned in four cases. In several cases no constitutional symptoms followed, and he thinks that a satisfactory result can be obtained in a certain number of cases by this operation when it is undertaken in an early stage of the disease, before the glands or lymphatics are affected.

[It would seem to the writer that Dr. Jullien has inextricably confounded chancres and chancroids in this article. The excision of a local ulcer may very possibly be beneficial, but the excision of the local manifestation of a constitutional disease can exert no effect on the future course of the disease. To quote a classical writer: "The chancre may be destroyed by caustic or the knife, but the disease (syphilis) will run its course unaltered."]

Abscess in the Right Frontal Lobe of the Brain.—Dr. Williamson records an interesting case of cerebral abscess following influenza in the *Medical Chronicle* for March, 1891. The patient, a lad, nineteen years of age, had had a troublesome cough, loss of flesh, and loss of appetite for several months previous to the middle of February, 1890, and was in a debilitated condition. At this time he began to suffer from influenza, which was prevalent. There was a profuse nasal discharge with very severe pain in the frontal and occipital regions. Previous to the influenza he had not suffered from headache. After this attack his mental condition became very dull, he became emaciated, and was confined to bed by the severe frontal headache. There were no convulsions, no paralysis, no loss of consciousness. On the day when he was admitted to the hospital he could not turn his eyes to the left, but this symptom had disappeared by the following day. The pupils were dilated and equal, and reacted to light. All desired movements of the arms and legs could be performed, but in a feeble manner. The reflexes were normal with the exception of the knee-jerk, which was absent. Ophthalmoscopic examination revealed optic neuritis in the right eye but not in the left. His hands and fingers were in constant motion. Iodide of potassium produced at first a slight temporary improvement, but he soon became worse, his mental condition became more and more dull and stupid, and he finally died comatose.

At the autopsy the brain was found much congested. In the anterior part of the right frontal lobe was a large abscess which contained about three ounces of thick, creamy pus. It extended anteriorly to within a sixteenth of an inch of the surface of the anterior extremity of the frontal lobe; posteriorly, to a point a quarter of an inch anterior to the right caudate nucleus; externally, to about a quarter of an inch from the outer surface; and internally, almost to the median surface of the frontal lobe. Examination of the base of the skull revealed no trace of suppuration, meningitis, or fracture. No disease of the tympanic cavities, or of any other part of the temporal bones, or in the orbits, could be detected, but, on breaking through the cribriform plate of the ethmoid, a small amount of pus was found in the upper ethmoidal sinuses on the right side, none on the left. Taking into consideration the whole history of the case, it seems probable that the influenza occasioned the suppuration in the right ethmoidal sinuses, and that this was the cause of the abscess in the right frontal lobe of the cerebrum.

Trephining the Spine for Fracture.—Knox (*Glasgow Med. Jour.*, April, 1891) reports a case in which he trephined the spine for fracture and dislocation in the dorsal region. The patient, a pit-boy, thirteen years of age, was admitted to the Glasgow Royal Infirmary with a severe injury to the back caused by the fall of a shaft-cage. Displacement backward of the spine of the eleventh dorsal vertebra could be recognized. On the following day there was complete loss of power and sensation in both lower limbs, but the patient had control of his bladder. Thirty-six hours after the receipt of the injury the spine was trephined. The tip of the tenth spinous process was found detached; the body of the eleventh vertebra was broken across in a direction obliquely downward and forward; the upper articular processes were fractured and displaced behind the lower articular processes of the vertebra above, and the lower vertebra was displaced backward three fourths of an inch and its spinous process rotated to the right side. The laminæ of the tenth vertebra were sawn through, some portions of the articular processes were nipped off, and the dislocated vertebra was reduced to its normal position. The spinal theca was not opened.

On the day after the operation, sensation was found to be perfect in both lower limbs, but it was not till after the lapse of three days that the patient was able to move his toes, and for nearly two months this was the only movement he could make with his lower extremities. At the end of a year he could stand erect and walk a few steps without support. The muscles continued to gain in size and strength. The progress in this case, though very slow, was certainly satisfactory.

Nephrydrosis of Unusual Origin.—Coats describes, in the *Glasgow Medical Journal* for May, 1891, a case of nephrydrosis dependent on the pressure of an artery upon the ureter. The larger of the two principal arteries which supplied the kidney had four branches, three of which passed into the kidney along the anterior border of the pelvis, while the fourth passed downward and backward, encountered the ureter, crossed it shortly before its insertion into the apex of the pelvis, and exerted sufficient pressure upon it to cause dilatation of the ureter and of the pelvis of the kidney. The condition was not detected during life, but was found at the autopsy on a patient dead from pulmonary disease. The opposite kidney was considerably enlarged.

Coats cites also two cases, the specimens of which are preserved in the Museum of the Western Infirmary, in which the ureters entered the pelvis at an acute angle, so that the orifice in each was in the form of a slit in the wall of the pelvis, became valved when the pelvis was filled, and caused nephrydrosis, which in one case was very great, but in both cases escaped detection during life.

Excision of the Tongue.—It may be well to recapitulate the essential features of the operation proposed by Mr. Whitehead in 1881, which he has performed upon one hundred and thirty-nine patients with one hundred and nineteen recoveries and twenty deaths. Only three of these deaths occurred after simple excision of the tongue; in all of the other cases the operation was complicated with either removal of the glands or of portions of the jaw (*Brit. Med. Jour.*, May 2, 1891). Briefly, these are the important details: 1. The patient should be completely under the influence of the anæsthetic during the first stage of the operation, but afterward only partial insensibility should be maintained. 2. The mouth should be securely gagged and kept fully open throughout the operation. 3. The head should be supported in such a position that, while the best light is secured, the blood tends to gravitate out of the mouth rather than backward into the pharynx. 4. A firm ligature should be passed through the tip of the tongue for the purpose of traction. 5. The first step in the operation consists in dividing the reflection of mucous membrane between the tongue and jaw and the anterior pillars of the fauces. 6. Rapid separation of the anterior portion of the tongue from the floor of the mouth. 7. Securing, if possible, the lingual arteries with forceps prior to division. 8. Passing a ligature through the glosso-epiglottidean fold before finally separating the tongue. 9. The application of a mercurial solution to the floor of the mouth, followed by painting the surface with an iodoform styptic varnish.

Extended practice has led Whitehead to abandon his former practice of cautious snipping, and to cut boldly down to the main arteries as quickly as possible. He prefers scissors to the écraseur because they are sharp-cutting instruments, and leave a smooth surface in the best condition for healing. With scissors, also, absolute precision can be obtained, while the erratic course of the wire of the écraseur is absolutely beyond the control of the operator.

The iodoform varnish which he employs he has slightly modified. Formerly he simply substituted for the spirit ordinarily used in the preparation of friar's balsam a saturated ethereal solution of iodoform. Now he prefers to mix with the ether one volume of turpentine in ten. This addition has a marked influence in promptly checking the capillary oozing which occasionally prevents a dry surface being quickly secured.

Feeding by the mouth is begun as soon as possible after the operation, and enemata are used only when it is necessary to supplement the amount of food the patient is able to take. The patients are not kept in bed, but are encouraged to walk out, if there is sunshine, the day after the operation. The average time of convalescence is seven days.

Rupture of the Sheath of the Adductor Femoris Longus.—Hamilton reports a case of this rare accident (*Med. News*, April 11, 1891). The patient, an enlisted man in the United States army, ran down a steep flight of winding stairs, slipped, and fell with his leg and thigh in a position of considerable extension. He suffered considerable pain, and was confined to bed for several days. Soon after this a tumor appeared on the upper and inner aspect of the right thigh, which incapacitated him for duty. Two years later the tumor was of about the size of a hen's egg, hard, non-fluctuating, situated on the inner side of the thigh below Poupart's ligament and the sartorius. It was somewhat variable in size, movable, and reducible, but there was no gurgling on taxis and only a very indistinct impulse on coughing. Upon operation, the tumor was found to consist of a portion of the adductor longus muscle, which had protruded through a rupture in its sheath.

A Defect in the Occipital Bone.—Bullard and Bradford report a case of cerebellar tumor for the removal of which an operation was attempted (*Bost. Med. and Surg. Jour.*, April 30, 1891). The usual flap, formed by a curved incision with its convexity upward from one mastoid to the other, was made and dissected rapidly downward. Whatever of the pericranium adhered to the flap was removed with it. The hæmorrhage from the foramina in the skull was controlled by means of wooden plugs until the occipital protuberance was uncovered. Near this a large opening was discovered in the bone, through which the hæmorrhage was great and not readily controlled. The patient passed into a state of collapse and died in a few moments. After death a trephine was applied directly over the opening and the button was removed. The opening was found to communicate directly with the torcular Herophili. There was no evidence of disease of the bone or of the dura mater at this point, but the opening appeared to have been congenital.

The existence of such an anomaly could not have been foreseen, and its occurrence may serve as a warning that in operations of this kind the pericranium should not be too freely stripped up in removing the skin flap in a region over the median line or over the occipital protuberance.

Miscellany.

Nitrogen-containing Foods and their Relations to Morbid States.—At a meeting of the Philadelphia County Medical Society, held on May 29th, Dr. Frank Woodbury read a paper in which he said:

At the outset, our attention is drawn to some fundamental physiological facts which must be kept in mind during the discussion of this subject. The human body is now regarded as a unit composed of an aggregation or community of cells. These anatomical elements differ from each other in some respects, but agree in this: each cell consists of two parts, one living and one non-living, corresponding with cell nucleus and formed material. What is visible to us is the non-living part, or the formed material; the real living part of the organism is hidden from view. Just as in vegetable tissue, the parts that are permanent and solid are composed of the cell-walls, which may remain long after the essential living part or protoplasm of the wood-cell has dried up and disappeared—in a similar way, in the human subject, the various organs and tissues which give it form and substance are not living; the only part exhibiting vital phenomena is the soft, shapeless, and colorless cell-nucleus, consisting of protoplasm or bioplasm. This living substance, in its chemical composition, resembles the various tissues, varying somewhat according to function, but it contains one essential ingredient which is so characteristic as to confer its name upon the whole class; this element is nitrogen. The celebrated dictum, "Without phosphorus, no thought," might be paraphrased "Without nitrogen, no life." Viewed from the physiological standpoint, the name "azote," applied to this element by Lavoisier, appears remarkably inappropriate.

As a necessary constituent of the tissues, therefore, nitrogen, in a state of combination, is always present in the human body. Since it is found in considerable quantity and in various forms in the excretions, some two or three hundred grains being discharged daily by the kidneys alone, besides what is lost by the intestinal tract and the skin, it is evident that in order to maintain life the supply must be kept up from outside sources. There are two principal directions in which we may look for the supply of nitrogen: (1) the atmospheric air, and (2) the food.

Although the atmospheric air contains about 80 per cent. of nitrogen, we may dismiss this at once as not available, beyond a very limited extent. Experiment has shown that it is not consumed or absorbed in the act of respiration; but a certain amount of air is always swallowed with the food and passes into the stomach, where it may become absorbed by the gastro-intestinal mucous membrane. It is possible that a small quantity is introduced by this channel, especially since it has been demonstrated that a moderate amount of gaseous nitrogen is excreted or exhaled by the skin.

Nitrogen-containing food must, therefore, be regarded as practically the only source of the constant supply of nitrogen which is so essential to the maintenance of the body in a normal condition. In fact, due attention has already been given to this by Liebig, Fick, Wislicenus, Parkes, Pavy, Flint, and others; and the proper relation of the two great divisions of proximate principles of organic origin, the nitrogenized and the non-nitrogenized, have been pretty closely determined. As their results are to be found in all the text-books, I will not refer to them in detail. I may remark, however, in passing, that from the clinical standpoint there appears to be a fallacy underlying all these calculations of dietaries, where food values are expressed in grains of nitrogen and carbon, inasmuch as no allowance is made for waste; the entire quantity ingested is supposed to be digested and assimilated. In practice we know that the fæces contain considerable nitrogen, which is not excretory, properly speaking, but represents the excess of consumption, part of the food having escaped digestion. In nursing-infants the fæces consist largely of undigested casein. Even adults are not able to entirely digest milk, and if so simple an article of food as milk is not completely assimilated, what warrant have we for assuming that the nitrogenized constituents of peas and beans, or of animal tissue, will yield their full equivalent of potential force to the organism? On the contrary, we know it to be a fact that much food-stuff passes through the alimentary canal without having its proximate principles extracted by the digestive organs and the absorbents.

We may, however, both clinically and by physiological experiment, making due allowance for the personal equation, determine with sufficient exactness the kinds and proportion of different foods required to maintain the body in a normal condition. Proceeding on the same lines, we may discover the effects of an excess, actual or relative, of nitrogen; or, on the other hand, we may ascertain the results of deprivation either partial or complete. We may also be able to see some therapeutic applications of the knowledge thus gained.

From the time of Hippocrates, and even earlier, it has been known that health and disease are largely influenced by food, and that the effects of an animal diet are different from those of a diet exclusively of vegetables. A distinction was even made between leguminous and other forms of vegetable food. It was not until our own day, however, that the practicing physician possessed sufficient knowledge of the chemistry of food and of metabolism in health and disease to enable him to direct the diet of his patients upon scientific principles. Following the definition given by Hippocrates, "Medicine consists in addition and subtraction, the addition of the things which are deficient and the subtraction of those things which are redundant; he who practices this is the best physician, but he whose practice is farthest from it is the farthest removed from a knowledge of the art"—we can now prescribe viands suited to a deficiency of nitrogen in the system, or substitute others if there is an excess. To the therapeutic aspect of the subject I will now very briefly ask your attention.

Taking up the latter instance first, we find that a diet poor in nitrogen is useful in the several forms of rheumatism, in gout and lithæmia, and also in recurring attacks of biliousness and bilious headache. Scurvy appears to be caused by an absolute, as well as a relative, excess of nitrogen in the food, and I have seen it caused by the use of an excessive amount of fresh meat among children in an orphan asylum. In its treatment, vegetable food relatively poor in nitrogen is usually employed. Some skin diseases, possibly of lithæmic character, are only to be cured by withholding nitrogenized food. It seems possible that a liberal use of meat in the diet may have some connection with the development of cancer, a disease which appears to be on the increase, as was pointed out by Dr. R. A. Cleemann, of this society, in his Address on Hygiene, delivered before the Medical Society of the State of Pennsylvania a few years ago. Dr. W. Mattieu Williams, in a little work on *The Chemistry of Cookery*, pointedly directs attention to the large consumption of meat as a cause of various forms of cancer. In families where a hereditary tendency of this kind exists, it is possible that it might be overcome by vegetarianism. Some nervous affections, notably epilepsy and chorea, are greatly benefited by abstention from meat in the food.

Owing to the writings of Roberts, Fothergill, and others, a causative connection between a diet rich in nitrogen and some forms of kidney inflammation or degeneration is now generally recognized. And in the treatment of the various forms of Bright's disease, attention to the diet is generally admitted to be of prime importance. There is a widely spread opinion that nitrogenized food is favorable to the occurrence of inflammation, and for this there seems to be a scientific foundation. Parkes has shown that a non-nitrogenized diet causes lowered blood-pressure and diminished arterial tension. Meat, therefore, is ordinarily prohibited under the antiphlogistic treatment, as it was formerly called. In acute inflammations of mucous surfaces, especially in plethoric subjects, the use of animal food is usually forbidden. This should not be applied too strictly, however, for in some cases of subacute or chronic character a generous and nourishing diet is necessary.

On the other hand, nitrogenized food may be prescribed where there is, from any cause, a deficiency of albuminous principles in the blood—for example, in anæmia or chlorosis. In phthisis this condition is sometimes quite marked, and good results have been obtained from the beef-and-hot-water plan of treatment, and also from the use of fresh bullock's blood, or hæmoglobin, which requires less digestive capacity and is more easily assimilated than muscle-tissue.

Children frequently suffer from a deficiency of nitrogen. Where an infant is reared upon condensed milk entirely, the limbs are plump, but the tissues are flabby on account of anæmia. Such children are late in getting their teeth and have little power of resistance against disease. The addition of oat-meal, barley, or rice to the milk will often bring about marked improvement and may prevent the development of rickets. Just here I might stop to point out the fallacious character of some of the arguments based upon the comparative chemical composition of woman's milk and other foods. Leeds found in a number of specimens of woman's milk that the nitrogenous constituents varied from 4·86 to 0·85 per cent. So that one specimen of mother's milk may have six times the amount of albuminous material contained in another.* This shows the necessity, when the child does not thrive at the breast, of examining the milk to find out if it be deficient in nitrogenized constituents. If so, the addition of beaf-meal, bovinine, or other nitrogen-containing food in an easily assimilable form is advisable.

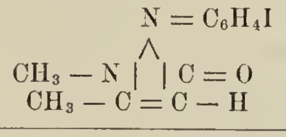
Eczema in infants, or in sewing women, is often traceable to a deficiency of nitrogen in the food, and Dr. Rohé, of Baltimore, advises the addition of meat-broth and eggs to the diet as an essential part of the treatment. Similarly, in many syphilitic eruptions upon the skin, in broken-down subjects, good food is a necessary preliminary to any specific treatment. Neurasthenia and atonic dyspepsia, which are so often associated in the same patient, especially if he is at the same time anæmic, can only be relieved by nitrogenized and fatty food, administered in a form easy of assimilation and at comparatively short intervals. On the other hand, in diabetes and in obesity, the diet may be largely nitrogenous, but in this case it is because there is a desire to reduce the carbohydrates and not because an excess of nitrogen is particularly sought after.

To return to the children, I wish to call attention to the fact that during the period of growth and development more nitrogen is needed than after the body has assumed its full stature. Hence, school-children should have a due allowance of meat, and should be encouraged to eat oat-meal, corn, beans, peas, and other vegetables known to contain this valuable constituent.

In the foregoing brief *résumé* of an important and interesting subject I have not made any distinction between the nitrogenous proximate principles of animal and vegetable origin. Chemically and physiologically they are nearly identical; but practically there are minor differences of palatability, digestibility, and relative utility, which, at present, our limits will not permit us to consider.

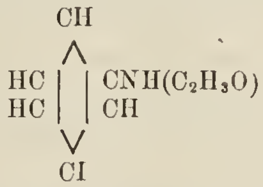
Iodantipyrine and Iodantifebrine.—The *Therapeutic Gazette* for May says: The enthusiasm with which only a few years ago the search for antipyretics was prosecuted has now abated, for it was soon recognized that the morbid process in most cases was but little, or not at all, influenced by the reduction in body temperature. And yet the discovery of any new antipyretic must always attract more or less attention, for we always have the hope before us in this way of discovering some specific remedy, to say nothing of the value of studies relating to the chemical constitution of such bodies and the influence of the nature of that constitution on the character of the results produced. Antipyrine and antifebrine are without doubt the two antipyretics which in the last few years have acquired the greatest reputation, while iodine as indisputably is a remedy which is one of the most valuable in our materia medica. The fact, therefore, that Dr. Ostermayer has succeeded in perfecting a chemical combination of iodine with both antipyrine and antifebrine would lead us to expect that such a compound might possess valuable therapeutic properties, and we therefore turn with interest to the report published in the *Prager medicinische Wochenschrift* for January 28, 1891, and February 4, 1891, of a series of experiments made in this connection with these substances by Dr. Egmont Munzer in the clinic of Professor von Jaksch.

Iodantipyrine is antipyrine in which one hydrogen atom has been replaced by iodine; it is therefore iodphenyldimethylpyrazolon, $C_{11}H_{11}INO$, and its chemical constitution is in all probability the following:



It crystallizes in colorless, shining, prismatic needles; is with difficulty soluble in cold water and alcohol, more readily soluble in these menstrua when hot. It is absolutely tasteless, and has no especial odor. A two-tenths-per-cent. solution of this body does not prevent fermentation of grape-sugar. Its melting-point is 160° C. Dr. Munzer has studied the effects of this remedy in typhoid fever and in pulmonary tuberculosis, diseases whose temperature curves are well established. As regards the antipyretic effects of this compound, Dr. Munzer's results show that it corresponded absolutely with that of pure antipyrine, a fact which might be expected; for it is probable that through the action of the hydrochloric acid of the gastric juice this body would be decomposed, and we might, therefore, with reason look for the effects of antipyrine on the one side and iodine or iodide of sodium on the other. Dr. Munzer states that his results have shown him that in all probability such a decomposition actually does take place. He adds that, in doses of from seven grains and a half to twenty-two grains, marked reduction of temperature is produced, which is accompanied by sweating, but without collapse and without chills. Pulse and respiration are slowed in proportion to the reduction of temperature, while the pulse becomes somewhat fuller and respiration somewhat freer. Eleven different cases are reported in which this substance was used as an antipyretic, the general result confirming the supposition above announced that its action is identical with that of antipyrine. The urine of every patient to whom iodantipyrine was given showed a marked iodine reaction after fifteen to twenty-two grains of this remedy had been given, while the reaction of antipyrine in the urine with nitric acid was but faintly marked. If a perfectly clear, watery solution of iodantipyrine is tested for the iodine test with nitric acid and chloroform, a negative result is obtained; but a positive reaction is produced when either the solution or the nitric acid is heated, or when the reagents are allowed to remain in contact for half an hour. It would therefore seem that it is through the action of nitric or hydrochloric acid that the iodine of the iodantipyrine is set free, and the author reports some experiments which seem to show that this decomposition of iodantipyrine actually occurs in the stomach; so that, therefore, the therapeutic action of this remedy is not that of a new compound, but that which might be expected from the simultaneous administration of antipyrine and iodine, either free or in the form of a salt. It thus being seemingly established that this compound possesses no antipyretic effects other than those of antipyrine alone, the question naturally suggests itself as to whether the iodine, when so administered in combination, differs in its therapeutic effects from iodine administered alone. Here the author's experiments unfortunately are not sufficiently complete to admit of any conclusion. He, however, reports a case of persistent headache, apparently of syphilitic origin, which was rapidly cured by the administration of this compound, while a case of acute articular rheumatism is stated to have been entirely relieved from pain within six hours of the administration of the first dose. Further studies evidently are desirable before any positive conclusion can be formed as to the effects of the iodine in this composition.

Iodantifebrine is acetanilide in which a hydrogen atom has been replaced by iodine, the formula, therefore, being $C_6H_4INHC_2H_3O$, and its constitution, in all probability, the following:



Dr. Ostermayer prepared this substance from paraiodaniline, the product being with difficulty soluble in cold water, in alcohol, and ether; readily soluble in hot alcohol, and especially in hot glacial acetic acid. It has no taste and no odor, and melts at about 181·5° C., and in two-tenths-of-one-per-cent. solution the substance does not prevent the fermentation of urine or of milk sugar. The author's experiments as to the action of this substance show that, as an antipyretic, its effects were absolutely negative, and, in fact, no action was noted to follow its administration which could be attributed either to the antifebrine or to the iodine. This, of course, may be explicable as due either to non-absorption from its insolubility, or even, if it is absorbed, that the addition of iodine to its composition has destroyed the activity of the antifebrine. After its administration, neither iodine nor antifebrine could be recognized in the urine—an observation which seems to show that this substance is not absorbed in the slightest degree by the alimentary canal, for tests of the iodantifebrine solution give both the iodine test and the characteristic antifebrine reactions. The author's experiments, therefore, are simply valuable as having removed two more substances from the list of new remedies from which wonders may be expected.

---

* Quoted by Starr in his *Hygiene of the Nursery*, Philadelphia, 1888.

A Literary Course for Students of Medicine.—The secretary of the Illinois State Board of Health, Dr. John H. Rauch, has issued the following circular, dated June 6, 1891:

There is a demand, from medical teachers and young men that intend to study medicine, for a literary course preparatory to the study of medicine. This demand has been met by a few of the literary institutions in the United States, and it is hoped and believed that it will be much more generally met during the next two years. The following institutions now offer science courses for students that intend to study medicine, or that intend to teach or otherwise engage in biological work:

1. University of Wisconsin; 2. University of Pennsylvania; 3. Johns Hopkins University; 4. University of Notre Dame; 5. Yale University; 6. Cornell University; 7. Princeton University; 8. Lake Forest University; 9. Northwestern University; 10. West Virginia University; 11. University of Kansas.

As must be obvious, such a course should be based on biology, and should include thorough work in this science, as well as in osteology, comparative anatomy, and chemistry, with English, French, German, some Latin, clay modeling, free-hand drawing, mineralogy, mathematics through trigonometry, physics, mechanics, logic, general and pharmaceutical botany, and (in the last year) psychology.

It is of course understood that botany, being a branch of biology, should have a prominent place in the course.

The catalogues of the universities mentioned contain the lists of studies offered in their science courses.

Such a course should extend over four years. This will involve no loss or waste of time to the student. The Illinois State Board of Health now requires that students of medicine matriculating in the autumn of 1891 or thereafter must study medicine four years and must attend three courses of lectures, no two in the same twelve-month, in order to obtain a license to practice in Illinois. This rule will apply also in some other States. The Illinois State Board will, however, recognize a thorough course in science, such as indicated above, as equivalent to two years' study and one course of lectures, thus enabling the student to enter the second class in the medical college. This makes the full time of study six years in the literary and medical schools, or two years less than is required of the student pursuing a strictly classical course. Not only will time be thus saved, but the science student will be much better prepared to enter the second course of the medical school than will the classical student to enter the first year.

The Illinois State Board wishes to make up a science course that can be recommended to any college wishing to adopt such a course, and, having but little time to study the subject, I desire to enlist your aid and have your advice in the matter so as to make the course as practical and as beneficial as possible. Will your faculty, therefore, make out such a course as it thinks best for the purpose, and send it to the secretary of the board?

The demand from medical teachers and from students of medicine having been met by some universities, must be met by all that would continue to hold a high rank as educators of young men for the work of life.

The New York State Medical Association.—At the eighth annual meeting, to be held on October 28, 29, and 30, 1891, at the Mott Memorial Hall, 64 Madison Avenue, there will be a discussion on Acute Diffuse Peritonitis, to be opened on October 21st, at 1 P. M., by Dr. Alfred L. Carroll, propounding the following questions, to be answered in writing: I. What does the normal histology of the peritonæum teach us of its physiological purpose? II. Do pathological and clinical considerations warrant the separation of cases of acute diffuse peritonitis into different classes, some infective, others not so? III. What part do micro-organisms or the products of fermentation caused by them play in the pathogeny of different forms of acute diffuse peritonitis? IV. What are the means of differential diagnosis between various forms of acute diffuse peritonitis, and what is the prognosis in each? V. In what respects are the therapeutic indications in acute diffuse peritonitis modified by the ætiological factors? (*a*) From wounds, contusions, rupture of the bladder or some other viscus, or of abscess or aneurysm; perforation; intussusception or strangulation; typhlitis; caries of bone; gall-stones; infection in the course of lymphangeitis. (*b*) From fæcal impaction; extension from enteritis, hepatitis, or disease of other abdominal viscera; in dysentery or typhoid ulceration without perforation; incidental to paludal or exanthematic fevers, to albuminuria, scurvy, cardiac disease, rheumatism; from exposure to cold and damp; from decomposition of intestinal contents. (*c*) In women: from imprudence or exposure during menstruation; extension from pelvic peritonitis, perimetric cellulitis, metritis, salpingitis, oophoritis, etc.; from gonorrhœal infection; from abortion; puerperal, extending from metritis, or by septicæmia; sequent to abdominal section. (*d*) In children: from umbilical phlebitis; intussusception; worms, etc.

To Contributors and Correspondents.—*The attention of all who purpose favoring us with communications is respectfully called to the following:*

Authors of articles intended for publication under the head of "original contributions" are respectfully informed that, in accepting such articles, we always do so with the understanding that the following conditions are to be observed: (1) when a manuscript is sent to this journal, a similar manuscript or any abstract thereof must not be or have been sent to any other periodical, unless we are specially notified of the fact at the time the article is sent to us; (2) accepted articles are subject to the customary rules of editorial revision, and will be published as promptly as our other engagements will admit of—we can not engage to publish an article in any specified issue; (3) any conditions which an author wishes complied with must be distinctly stated in a communication accompanying the manuscript, and no new conditions can be considered after the manuscript has been put into the type-setters' hands. We are often constrained to decline articles which, although they may be creditable to their authors, are not suitable for publication in this journal, either because they are too long, or are loaded with tabular matter or prolix histories of cases, or deal with subjects of little interest to the medical profession at large. We can not enter into any correspondence concerning our reasons for declining an article.

All letters, whether intended for publication or not, must contain the writer's name and address, not necessarily for publication. No attention will be paid to anonymous communications. Hereafter, correspondents asking for information that we are capable of giving, and that can properly be given in this journal, will be answered by number, a private communication being previously sent to each correspondent informing him under what number the answer to his note is to be looked for. All communications not intended for publication under the author's name are treated as strictly confidential. We can not give advice to laymen as to particular cases or recommend individual practitioners.

Secretaries of medical societies will confer a favor by keeping us informed of the dates of their societies' regular meetings. Brief notifications of matters that are expected to come up at particular meetings will be inserted when they are received in time.

Newspapers and other publications containing matter which the person sending them desires to bring to our notice should be marked. Members of the profession who send us information of matters of interest to our readers will be considered as doing them and us a favor, and, if the space at our command admits of it, we shall take pleasure in inserting the substance of such communications.

All communications intended for the editor should be addressed to him in care of the publishers.

All communications relating to the business of the journal should be addressed to the publishers.

Lectures and Addresses.

ON ULCERATIVE DISEASE OF THE UPPER RECTUM AND SIGMOID FLEXURE.

By CHARLES B. KELSEY, M. D.,
PROFESSOR OF DISEASES OF THE RECTUM
IN THE NEW YORK POST-GRADUATE MEDICAL SCHOOL AND HOSPITAL, ETC.

I wish to call your attention to-day to these two cases, which you will find of great interest and which will repay a very careful study.

You see here two men of about the same age—forty years. One is a strong, muscular carpenter, who has come to us from the South; the other a nervous, slight clerk. The former tells us that he was taken down about a year ago with what was considered at his home an acute dysentery, that he was in bed three or four weeks, and that he has never recovered; that he has lost during the past year about thirty pounds of flesh, though during the past few weeks he has regained some of the lost weight; that he has constant and almost unbearable pain at the end of the spine during the day, but is free from it at night; that he has six or eight bloody, slimy stools also during the day, and that the fæcal matter which he passes is flattened and tape-like, but that he is not troubled with passages of any kind during the night. Mark the effect of rest in ulceration of the rectum!

I have examined this man with my finger, and the examination is negative. Since he has been in the hospital I have also had his passages saved and examined, and we are able to verify his statements concerning them. They are a mixture of blood, mucus, and foul-smelling pus, and the fæcal matter is flattened and ribbon-like.

Take now the history of the other case. He tells me at the beginning that he knows he has a stricture of the rectum. He, too, has been suffering for about a year, though his troubles came on gradually and not suddenly, and during that year he also has lost about thirty pounds of flesh, but, like the other man, he has regained some of it during the past few weeks. He has no pain at any time, though pain is what has brought the other patient to us for relief. At first he tells very much the same story about his passages as the other patient. He, too, has frequent slimy stools and misshapen fæces, but when we come to question him more closely we find a decided difference. Both go often to the closet; but this man passes no blood and no pus—only a tablespoonful of clear mucus, and the stools in this case are not flattened, but are lumpy and come away in irregular pieces of varying size and shape. You see how necessary it is, with the most intelligent patients, to be exact and searching in your questions. I have also examined this man's rectum with the finger and I find nothing, and I have brought the patients before you for further examination and diagnosis.

Both of these men represent a class of case the diagnosis of which is attended by as much difficulty as anything in the whole range of medicine or surgery. They come under the care of physician and surgeon alike, and it is entirely possible two examiners of equal acumen will differ in the diagnosis. In fact, I am about to differ absolutely in one of these cases from a man whose opinion I thoroughly respect and whose honesty is unquestioned.

We are here in the presence of disease of just that part of the alimentary canal which it is most difficult to examine—the upper part of the rectum and lower part of the sigmoid flexure—of that part which can neither be reached by the finger from the rectum below nor by the hand from the abdomen above. And ulceration with stricture of this part of the bowel is more dangerous than when lower down, where the rectum is more firmly attached and less movable. One of these patients has flattened, tape-like stools. A stricture in this part of the gut tight enough to cause this symptom may without warning cause fatal intestinal obstruction, while the same amount of constriction in the middle or lower third of the rectum would be devoid of immediate danger, for the simple anatomical reason that where the rectum is fixed the whole expulsive force of the body can be brought to bear upon the fixed point of obstruction, and fæces can be crowded through a passage so small as scarcely to be noticeable, while in stricture higher up the expulsive effort may easily cause a bending and turning of the gut upon itself which shall render the obstruction complete.

Let me mention a case which will convey very clearly what I mean.

Two years since a patient was sent to me for an examination with the same general history and symptoms that these men have, only he was in better health and seemed to have less serious trouble. He passed a little blood at times, but there was no deformity in the stools, and there had been little or no emaciation. But he was a physician and was troubled about himself. He had pain deep down in the left iliac fossa at the brim of the pelvis, and he was convinced that the blood and mucus in his stools came from a point upon which he could almost place his finger when he pressed down into the pelvis. I examined him with a bougie, and a good-sized one passed without difficulty; I examined him from above and could detect nothing. He had slight hæmorrhoidal trouble, and it was suggested that possibly the blood might come from this. He did not think so, but asked me to remove them. It was done, but after a week the blood reappeared. I then suggested an exploratory laparotomy, which he declined, and I did not urge it, more than half believing the trouble transitory. He returned to his home at a distance, and a few weeks later we heard of his sudden death from intestinal obstruction. The autopsy revealed a small cancerous annular stricture in the lower part of the sigmoid flexure.

Are either of these patients in the same danger? In both, the diagnosis of stricture at this point has been made, and in the one who is passing only mucus the opinion has been given that the disease is probably malignant. From that opinion we shall differ, and for the following reasons. First let us put him on the table and examine him.

Taking a No. 7 rectal bougie of soft rubber, we attach the nozzle of a Davidson syringe to it, and proceed to pass it up the rectum. I did this yesterday, and had a very remarkable sensation. The bougie went up about five inches and stopped, as it usually does at that point.

Water was injected through it gently, and after about four ounces had been thrown up there was a sudden giving way of an obstruction, which frightened me, and the instrument was withdrawn. The patient had, however, experienced no sensation, and after waiting a few moments I took the next smaller size and tried again. Again the same obstruction was found at the same point, and, as the water was gently thrown in, the same sudden overcoming of the obstacle, but this time so distinct that the patient was startled, and inquired anxiously the cause. The bougie passed on its full length. The cause of the obstruction which so palpably gave way under the pressure of the water I do not know. I never appreciated the same sensation before, but it was probably a fold of mucous membrane, or the sudden unfolding of a slight invagination.

That examination was made yesterday, and we will now repeat it with the larger-sized instrument which failed yesterday. You see it is stopped at the promontory of the sacrum, which means nothing, and we have recourse to the distention with water. This time there is nothing out of the ordinary. With the usual amount of pressure the bougie passes its full length, and on withdrawing it there is no blood or pus upon it and none flows from the anus, nor has the patient experienced any pain. He is only much surprised that we should so easily have accomplished what others have failed to do and have assured him could not be done because he had a stricture.

Now, has this man any symptoms of stricture of the rectum? None. And the bougie does not indicate a stricture. Had he well-marked symptoms of stricture, I might not put much weight upon the fact of the easy passage of the bougie, for that is only twelve inches long, and a stricture might be just beyond, or the stricture might have been passed by the bougie without our detecting it, on account of its large caliber. But the man has no symptoms of any ulcerative process. His bowels act irregularly and unsatisfactorily, it is true, but so do those of many constipated men. He passes mucus sometimes three or four times a day; so do many people who are suffering from intestinal catarrh. He does not pass pus; he has never passed blood; there is nothing to indicate any destructive process in the bowel; his loss of weight may easily be accounted for by malassimilation of his food; the bougie fails to find any obstruction or any raw and bleeding surface; and for these reasons we tell the man that he has no cancer, that he has no stricture of any sort—in fact, that he is suffering simply from a very common but very intractable affection, intestinal catarrh. We shall put him on an absolute milk diet at a venture, give him small doses of morphine with bismuth for a few days to allay the irritability of the intestine, and you shall see the result.

Now let us take the other patient—the one first described, who is passing blood and pus. In this case also it is necessary to examine the upper rectum and sigmoid flexure, but to do so we shall not, as in the last case, make use of the bougie. What we most wish to determine here is not the mere existence of ulceration and stricture, for that we know from the symptoms, but the character of the process, whether malignant or benign, and on this point the bougie can give no light. Again, the bougie is a dangerous method of examination in just such cases as these. If an obstruction is met, even the usual one at the promontory of the sacrum, we dare not use even the ordinary amount of force necessary to overcome it for fear of doing fatal injury, for an ulcerated gut may be torn with very little apparent pressure. The rent does not occur from forcing the bougie through the stricture, but from carrying the stricture onward on the point of the instrument in the attempt to pass it.

The point on which the differential diagnosis as to the character of the disease in this case will rest is the amount of induration and thickening at the ulcerated point. Have we here a large destruction of the mucous membrane, with cicatrization in some places and advancing destruction in others, such as is caused by dysentery; or have we an annular deposit of cancer, from which is coming the blood and pus? To know this we must try and get the disease within reach of the finger, and for this purpose we will etherize the patient and pass the hand into the rectum.

While this is being done, let me give you some other information about the patient which you will see has a very direct bearing upon the possible line of treatment.

The man is married, has four small children, is a day laborer, and has no means. He can not even remain in the hospital any length of time for treatment lest those dependent upon him should want. He has come North with the delusion that he could be cured in a week and return to his work. The problem before us, therefore, is to place a man who is too sick to work into condition to earn a living for his family in the shortest possible time. Now, supposing that we find here simple dysenteric ulceration, what are we to do? Ordinarily the treatment would be prolonged rest in bed, absolute milk diet, and local applications of nitrate of silver or other things—a treatment lasting many weeks, and holding out no certainty even of ultimate cure. On the other hand, should we find malignant disease we should at once do colotomy. All this has been thoroughly explained to the patient, and the decision has been left entirely to him. He knows that even if the disease be non-malignant, we can by a colotomy put him back at his work in three weeks; and because of his poverty and the family dependent upon him, he has chosen that method of relief rather than the prolonged and uncertain medical treatment. So, whether malignant or non-malignant, we shall now open the sigmoid flexure; but first we will try and decide which.

Without great difficulty I distend the anus and pass all four fingers and the palm of the left hand into the rectum. With the thumb resting against the perinæum I can by strong pressure gain an inch or so more, and in this way can feel about seven inches of the gut; in other words, almost the whole length of the average rectum. Then with my right hand making deep pressure in the pelvis I can bring the fingers of the two hands together, and there is no new growth between them—nothing but the abdominal muscles and the wall of the gut. Even this is not positively conclusive, for you can conceive of a small ring of cancerous deposit, an inch or so in width, being pushed to one side in advance of the fingers in the rectum, and allowing the two hands to come in contact to one side or in front of it without its being detected. There is a considerable loop of gut at the brim of the pelvis which is not included in this examination, and can not be without passing the entire hand and wrist into the rectum, which is a dangerous proceeding. In this loop there may be a cancerous stricture which will escape detection. Still, it would be a small, annular mass that could escape detection in this way, and as I draw my left hand out of the bowel you perceive it is smeared with blood and foul pus, and the diagnosis of non-malignant ulceration and stricture is made. In addition to non malignant, we can also say, from the history, probably dysenteric, being guided in this by the history of an acute commencement of the disease and a knowledge of the part of the country from which he comes.

At the risk of being tedious, I am going to dwell a moment longer on the indications for the operation in this case. The operation itself is no novel sight in this clinic, as you know, although there will be one or two points in the technique of this one to which I shall call special attention; and it is much better you should all clearly understand when to do the operation than merely to watch me open this patient's abdomen, bring the sigmoid flexure out of the wound, and fasten it there. You are all practitioners; an exactly similar case to this may come under your care at any moment; let me ask you if you know of any better treatment for this case than colotomy? Is the case curable by any other means? Possibly. Were the patient able to give us even a month of time, other means would certainly be tried, and I have seen them succeed in just such cases. Certainly I should not do this colotomy at this time unless the patient chose this treatment after a thorough understanding of the case. But after a few weeks of unsuccessful medical treatment I should just as certainly strongly recommend it; and I am willing to do it now, because I know it will at once cure his disease if, as we suppose, it is not malignant. His pain will cease as soon as the gut is opened and the distal portion washed out. He will be able to work at the end of three weeks, which he can not possibly be by any other plan of treatment. The operation is attended by scarce any danger in his general good condition; he will be comfortable after it is done, and, should he desire it, the artificial opening can be closed when the ulceration is healed. These things we know by past experience. I have taken great pains in many of these colotomies to have the class follow the after-histories of the patients and hear their conclusions in their own words, and you have yet to hear the first word of dissatisfaction, or to see the first patient desirous of going back to the old order of things. I have a letter here, received this morning, from one of the patients operated upon just a year ago which I have brought for your benefit. We will leave out the thanks and give you the gist of the whole matter: "The artificial anus is nothing. I have a movement from it every morning and think nothing about it the rest of the day. I would not go back to the old condition of things for any amount of money." And this is from a lady in the higher walks of life, the wife of a physician, one of the neatest women in her personal habits I have ever seen, and yet one who had suffered many years from non-malignant ulceration, and was generally spoken of in the city where she resides as "the lady with the air-cushion."

Need I say anything more? If the diagnosis is right in this case, the man will be cured, able to work, and in every way comfortable in a few weeks after this operation; and if wrong, the same procedure is doubly indicated, for then we are dealing with malignant disease.

My only object in thus dwelling on the indications for the operation in this case is to do away in your minds with the old and popular idea that an artificial anus is a disgusting deformity to which even death itself is preferable—an idea which, I am convinced, those of you who follow my clinic for any length of time will abandon. And yet this same idea governed my own practice, I am sorry to say, for many years; and I count now more than one death which might have been avoided, and much suffering that might have been relieved, had I but accepted the plain teaching of the experience of others on this point and set aside my own foolish scruples.

Proceeding now with the operation, you see that, after the abdomen is opened, the sigmoid flexure presents in its natural position. In this particular case we have to make an opening which shall be completely efficacious in diverting the flow of fæces from the rectum, and which shall entail as little injury to the gut as possible, in order that we may close it in the future with as light an operation as possible, should it be found desirable. To accomplish the first I shall introduce my silver wire under the gut, as usual, and make the sharp spur, which so effectually prevents all subsequent passage of faces beyond the artificial opening. To provide for the second, I shall draw the gut only partially outside the abdominal cavity, shall in its incision avoid as much sacrifice of its wall as possible, and generally try to provide an outlet for the fæcal matter, which can be closed by a subsequent plastic operation which shall not involve an opening into the peritonæum. I have explained to you before how this inguinal incision has this advantage over the lumbar—that almost any form of artificial anus desired can be made at the choice of the operator, while in the lumbar operation the opening must always be essentially the same.

You see that, as the gut is brought to the surface and the suspensory silver-wire suture passed through its mesentery, one longitudinal band is in a most favorable position for suture to the skin. After a few silk sutures have been passed through this, you see that I can bring the whole caliber of the gut above the cutaneous margin and fasten it there, or that I can bring only half the caliber out of the abdomen and fasten the gut in that position. The latter is what we shall do, and the results in these two cases we will see that you are informed of later.

NOTE.—Ten days after operation. Gut opened on second day; solid, involuntary evacuations since. Patient up about the ward. The other patient on milk diet markedly improved. Entire cessation of mucous discharges.

Three months later. The patient with the intestinal catarrh practically cured. The man with ulceration gained eight pounds in the first month and returned to his home. A subsequent letter reports some pain and discharge still, but no trouble from the artificial anus, which he has become accustomed to and does not regard.

REMINISCENCES.*

By JOHN M. FARRINGTON, M. D.,
BINGHAMTON, N. Y.

Fellow-members: Time in his ceaseless round has added another year to our lives since our last annual meeting. We are again assembled to make history and, I trust, to add somewhat to the common fund of experience which the past twelve months has given us.

Death has invaded our circle and taken from our midst a cherished and beloved brother, Dr. A. E. Blair, who died at the threshold of a promising life of professional usefulness. Admonished by this solemn event, may we, with renewed diligence, so live that when death's summons comes to us we may, like Dr. Blair, be ready for the transition to that better country where the years of eternity roll.

In planning to fulfill the duty devolving upon me to-day, I desired to present an essay that would not weary you, for this is not the time or place to read tedious histories of cases, or dry essays upon pathology or therapeutics, and I have no brilliant operative measures to report.

I fondly hoped that a brief retrospect of personal experience in the study and practice of medicine for one third of a century might not be devoid of interest to you, who have been fellow-travelers in the same highways, some for a longer and others for a shorter period than I. Such a theme will, of course, give me a wide range of latitude, and I shall be unable to dwell long upon any one topic. Be pleased, therefore, to consider what I shall present to you to-day as a hastily drawn bird's-eye view, as it were, of a panorama dating back to 1853, when I entered the office of Dr. Horace Green as a student, and the year following commenced the attendance of lectures at the New York Medical College at the session of 1854 and 1855. This college was located on Thirteenth Street; the University Medical College was at that time on Fourteenth Street, and the College of Physicians and Surgeons on Crosby Street.

Many changes have occurred since that time. The Bellevue Hospital Medical College was incorporated somewhat as a successor to the New York Medical College, which latter was closed, I think, in 1865, a part of its faculty—Professor Barker, Professor Doremus, and Professor Peaslee—aiding in the organization of the new school. The University Medical College removed to Twenty-sixth Street opposite the Bellevue, while the College of Physicians and Surgeons moved from Crosby Street to Fourth Avenue, corner of Twenty-third Street, where it remained until, recently, it has gone much farther up town to new and greatly enlarged facilities.

I remained in New York city until February, 1859. I enjoyed very valuable opportunities in those five and a half years. I not only attended three courses of lectures in the New York Medical College, but availed myself of the advantages offered at the cliniques of the other colleges, and on Saturdays witnessed the operations at the hospitals. Also, we students were privileged to attend the very interesting and profitable meetings of the Pathological Society and the Academy of Medicine. I knew nearly every physician in New York city either personally or by sight. Those were days of strong rivalry among the leading surgeons and physicians of the city, and especially between the members of the several medical schools.

The great men of those times have most of them passed from this life. How well do I recall the classic features of John W. Francis! You could not look upon him without thinking of Benjamin Franklin, whose face in print Francis remarkably resembled. Dr. Francis was a genial soul, known and honored by everybody. Then appeared also the stout form of Valentine Mott, the honored representative of American surgery. How we students enjoyed his cliniques! And what to us would have been repulsive egotism if said by others of their own work, we were not displeased to have him speak, as he frequently did, of the great things that Dr. Mott had done, for we knew it was true, and we could not only respect but applaud him even though his remarks seemed to smack of egotism. Next came the noble and dignified Alexander H. Stevens, making a grand trio; yes, and I should include that eminent Quaker, Isaac Wood. These men composed the noblest quartet of medical men of that period, and I am justly proud that I have their autographs upon my Bellevue Hospital diploma.

Were I to name others among the highest rank of talent at that time, I should place Edmund R. Peaslee, Alonzo Clark, Horace Green, and John W. Draper as the next quartet. There were at that time many rising younger men who have since attained an altitude that has made them conspicuous as leaders among their associates—notably John C. Dalton and Fordyce Barker. This list might be extended until perhaps one hundred names could justly be written of those who have brought honor to American surgery and medicine. I well remember J. Marion Sims, who came from Alabama and made New York his home. He was often at the office of Dr. Green, and I came to know him well, a man whose skill in his specialty crowned him as one of the world's greatest benefactors. But I refrain from naming more, having chosen those who, to my mind, ranked highest in professional position and merit. It is true that since that time Frank Hamilton and the Flints located in New York and were at once recognized as the peers of the best talent in the metropolis.

I graduated in March, 1857, and in the same month was examined for and received an appointment on the house staff of Bellevue Hospital. During my junior period, by consent of the hospital authorities, I visited Europe. I reveled in the sights of Paris, Versailles, London, Liverpool, Manchester, Dublin, and Edinburgh, devoting all the time I could to visiting the hospitals. I had letters of introduction to Velpeau, Trousseau, Civiale, and Ricord, of

---

* The annual address of the retiring President of the Broome County Medical Society at the annual meeting, held at Binghamton, New York, October 7, 1890.

Paris; to Fergusson, Erichsen, Lawrence, Wilson, Dr. Henry Bennett, and others, of London; and Dr. J. H. Bennett, of Edinburgh. I also saw in Paris Malgaigne, Jobert, and Caseaux; the former was especially very cordial, embracing my arm, as did also Civiale, on my leaving him. I attended a meeting of the Académie imperiale de médecine, July 28, 1867. Was at the École de médecine, and witnessed the examination of the students for their degree by Barth, Bouchet, and Denonvilliers. The gowns and caps of the professors made them appear peculiar to me, but they looked well nevertheless. Listened to a clinical lecture by M. Nélaton at the Hôpital des cliniques de la faculté de médecine. Saw M. Civiale perform lithotrity in two cases, and visited with him the ward where he had twelve beds for calculous disease, and saw him pass several bougies. I saw, at Hôtel Dieu, M. Jobert introducing bougies in several of his cases. I found Ricord at his hospital, surrounded by students, making the rounds and giving clinic talks. I handed him my letter of introduction. He read it, and then, in a very kind and familiar manner, took my hand and said: "Then you are from New York; how do you do?" Never did my mother-tongue sound so welcome as it did to me that day, as I had not heard it spoken for many a day. The cordiality of Civiale and Malgaigne I can never forget, but perhaps it is peculiar to Frenchmen.

I don't know how travelers in general are impressed, but the Parisians won my heart entirely. They were uniformly very courteous, kind, and obliging in everything, and nothing occurred during all my busy experience in France to make me feel other than that I was among good people and friends. From Paris I went direct to London, which I found full of interest to me, but I will only mention those matters that pertain to our profession.

I had a very pleasant little visit with Mr. Stanley, author of *Diseases of Bone*, and with Mr. Lawrence, the renowned eye surgeon and author. He gave me a card of introduction to Mr. Coote, of St. Bartholomew's Hospital, who showed me many courtesies at that famous old hospital. Here I saw Dr. West, author of *Diseases of Women and Children*, in charge of a clinique for out-patients. Among the cases presented was that of a woman who came to have a wooden globe pessary removed that she had worn for so long a time that it was firmly imbedded in the tissues, and Dr. West, after making several ineffectual efforts to remove it, told her to come at another time and he would have an instrument prepared to screw into it, and thus he would be able to withdraw the pessary. I met also at this hospital Mr. Kirkes, one of the authors of *Kirkes and Paget's Manual of Physiology*, and Mr. Paget, whose work on *Surgical Pathology* had become one of our classic standards. Mr. Paget operated that day upon a cancer of the lip, and Mr. Coote removed a tumor from the anterior portion of the chest.

Mr. Fergusson had given me a card of the date for his operations at King's College Hospital. Of course I aimed to be there on time to witness the work of the greatest living English surgeon, if not of the world. I reached the amphitheatre just in time. Fergusson recognized me among the students, and gave me a smile and glance of recognition. His perfect coolness and adroitness in operating filled me with admiration. There were three cases: 1. Operation for the relief of procidentia uteri. 2. Amputation of the hand. 3. Exsection of the head of the femur. I was most interested in the first operation, as it was a novel one to me. The patient was an elderly woman, long past the menopause. The case was an extreme one, the organ almost entirely outside the vulva. Ferguson said as there was no further use for the organ, he would replace it, and close the vaginal orifice by vivifying the outer edges and uniting them with sutures. After he had concluded his operations he made some remarks upon the cases, and then the younger surgeons came forward with their operations of a minor character.

I visited the University College Hospital, by invitation of Mr. Erichsen, and made the rounds of his wards with him. He was very affable and kind to me.

While at Edinburgh I was taken ill and, as my time was limited, I was unable to see the illustrious Simpson, Miller, and Syme, and Dr. J. H. Bennett was not at home. I was then at a period of life when I looked with special reverence upon those eminent men, many of whom were the authors of the text-books I had used as a student—physicians and surgeons whose reputations were deservedly world-wide, honored and respected by the medical men of every nation. To see these men, still more to have them take me by the hand and converse with me, was one of the highest gratifications of my life. I was charmed with the cordiality of these distinguished men, shown to me a mere tyro in medicine, having but just obtained my degree.

I cherish among my choice mementos the handwriting of those grand men who gave me memoranda of their hospital appointments for operations, cards, etc., and Erasmus Wilson gave me a little popular work of his, entitled *Healthy Skin*, after writing my name and his presentation on one of the front blank pages. At that time he was forty-eight years of age and I twenty-four. He appeared so much younger than I had expected to see him that I expressed my surprise, knowing that he was the author of a text-book on anatomy that had been used in our colleges for many years. He said, after informing me what his age was, that he thought he could pass in a court-room as young as I, and perhaps he might, as he showed no trace of age, having a florid complexion and sandy hair. He it was who afterward paid for the transportation and erection of the Cleopatra monolith on the Thames embankment in London, set up in 1878. The cost of the enterprise was about $50,000. It was on August 12, 1857, when he affixed a date in the book he gave me. He died August 8, 1884.

At Liverpool I obtained the appointment of surgeon to the ship Sir Robert Peel, and had a most delightsome voyage of forty days to New York, and at once entered upon my duties as an interne of Bellevue Hospital, where I remained a year. By the by, I must tell you how I came to seek a hospital appointment. I was without means and desirous of securing a paying practice as soon as I could, and yet was inclined to believe that a year in hospital would be a good investment, and render my ultimate success in private practice more secure. This was a subject of too much importance for me to decide hastily or without consulting my older medical friends and teachers. I therefore sought the advice of physicians of large experience and those who had achieved success in professional life. I informed them of my aspirations and of my financial status, or want of status. Yet, when my conference with six of them was over, I was almost as much in a quandary as the historic donkey which, it is recorded, starved to death between two bundles of hay while trying to decide which one to appropriate. Three of my advisers said, Go at once into general practice; you will get a fine start by the end of the first year; while the other three said, Don't fail to get the benefit of hospital experience; it will be of incalculable benefit to you through all your professional life. It did not take me long to decide after I had traversed the professional life or history of my good advisers, for all of them were good friends of mine and wished me well; but I learned that those who had urged a hospital service upon me knew what they were talking about, for they had had the advantages of hospital practice, while the other advisers had achieved success without hospital experience, and assumed that I could do likewise.

I decided upon hospital work, and was much gratified to learn, after the competitive examination, that I was one of the successful candidates. My year at Bellevue was full of interest and profit to me. I chose one of the surgical divisions, and the variety and abundance of cases embraced almost everything in the province of surgery, and our colleagues who had charge of the medical divisions gave me every opportunity to see whatever they had of interest in their wards. The Lying-in Department furnished about five hundred births during the year I was at Bellevue, and, unfortunately, we had a grave epidemic of puerperal fever the same year.

In making an autopsy of a case of peritonitis I received a post-mortem wound that gave me serious trouble. I was attacked with a severe chill, followed with a high grade of fever, the glands in the axilla took on inflammatory action, and, as erysipelas was prevailing in the hospital at that time, I was advised by the visiting staff to leave the hospital until my trouble was over. I went out to Tompkins County, in this State, and visited among my friends until I fully recovered from the effects of the inoculation, when I returned to the hospital and remained until the end of my term of service as house surgeon. I then married, rented a house, and opened an office in Thirty-eighth Street, New York city. I obtained an appointment at the Northwestern Dispensary on Eighth Avenue, to aid me in getting acquainted in that section and prevent me from growing rusty by inactivity. Five months' trial, if it did not confirm, at least made probable, a statement that had once been made to me—that it would require five or six years for a young physician, unaided by association with an established practitioner, to reach a point where he would be able to make his expenses. I was unwilling to test the question by any longer trial, and sought a country location, where I was fortunate enough to make expenses from the start, and soon had a fair business upon my hands. For twenty-seven years I cultivated that field, save one year that I spent in the United States service during our late civil war as a regimental surgeon.

Were I to give you a history of those laborious years, you would grow weary as well as I from their recital. Some present to-day have spent more years in practice than I, and those of you that have had less are well aware of the aspirations and depressions through which you have passed—the struggles and the triumphs, the disappointments and the anxieties, the gratitude and the ingratitude that throng the life of the busy practitioner of medicine. I once prepared a paper entitled The Shady and the Sunny Side of the Practice of Medicine, which I presume many of you have seen, as I mailed to most of the members of our society a copy of the *New York Medical Journal* in which it was published. In that article I presented some specimens of the alternate shadows and sunshine that we as medical practitioners are called to experience. I presume that my own experience has not differed widely from yours, and I will not therefore enter into details. I might select some of the most eventful items, but the time at my service today bids me to refrain.

To the question, "Is the practice of medicine a failure?" I should give a qualified answer. I have no desire to have my sons study medicine. The investment of the best years of one's life must be given to efficiently fit one to practice medicine and surgery. The trying responsibilities which have to be assumed, the anxieties which environ, the weary rides in stormy and inclement weather, the broken nights' rest which ultimately so seriously undermine the vital powers, are factors of importance in deciding whether the financial returns are, as a rule, adequate for such sacrifice and service. I answer promptly, No!

So large an amount of service is rendered by the surgeon and physician for which he receives no financial remuneration. No other vocation or profession does so much for which nothing is received. Again, our profession is overcrowded; the supply is far in excess of the demand. If all of the charlatans were weeded out, legitimate medicine and respectable practitioners might stand a better chance; yet we must submit to every form of competition, and we may as well be resigned to it, for we can not control the freaks and tastes of our poor humanity. We must accept the situation as we find it. Ours is a country where the largest liberty is allowed, and the public select, as they should, their medical advisers. Many a mountebank rides in a coach and his office is thronged with patrons, while his educated and conscientious neighbor may be struggling for an existence, his superior merits unrecognized by the multitude.

Dr. B. W. Richardson, of London, in an address to students of medicine and young physicians, strikes the key for the explanation in part for this state of things. It is because as yet we are compelled to acknowledge that therapeutics at least is not an exact science capable of demonstration. I quote from his address: "Did you ever meet with a practitioner who did not think himself the most successful of practitioners? Did you ever meet with two practitioners who practiced exactly alike? If, then, all are successful after a fashion—and I believe in this respect we are each of us 'much of a muchness'—and if the line of practice pursued by each of us is not on an equality: *ergo*, our success is dependent on external or internal natural results which we universally do not see or comprehend. . . .

"When you abuse the quack for his impudence and shallow conceit, call to mind that the quack flourishes on your weakness. Recall the truth that in astronomy there are no quacks, that in mathematics there are no quacks, that even in simple mechanics . . . there are no quacks. And why? Because the men of these occupations, great or little, work to a demonstration and are paid or penaltied according to their competency." How sage the advice when he adds: "With you, the first pilgrims in the narrow path of medicine, it rests to clear up these difficulties and differences; to distinguish the natural from the artificial means of cure; to show how diseases may be prevented wholesale, and to look upon prevention as part of your professional duty; to illustrate how diseases, when they do occur by accident, are removable in detail; to feel that neither the one nor the other of these duties is the least or the greatest. To sum up all these points of instruction, two sentences suffice:

> Work from Nature; she is your only authority.
> Work by induction; that is your only charter.

I would not advise a young man to study medicine unless he has at command sufficient means not only to complete his education as a student, but to thoroughly equip himself with a proper library and surgical instruments and ready cash to support him comfortably until his practice yields him an adequate income to meet all his responsibilities and necessary expenditures. The *study* of medicine is full of inspiration, more especially the departments of chemistry, anatomy, and physiology. It is good for man to know himself. Should he never engage in practice, the knowledge obtained in its study will be a joy and satisfaction to him all through life. The structure and functions of this wonderful system of ours, the laws of animal life, the value of systematic exercise, a knowledge of diet, sanitation, etc., all follow in the line of the careful study of the human body. But I have allowed myself to digress from matters of personal experience.

A little over four years ago I left my country village home and came to this city, chiefly to find an easier field of labor. I have found what I sought and have enjoyed the society of my new-made professional friends, and cherish you as brethren indeed. Side by side we are plodding on very much as our fathers in medicine did, and I understand that many of the members of this society are the sons of physicians. And yet on some points great advances have been made in the past one third of a century. The microscope has opened up a wondrous field of discovery, which is being cultivated with valuable results by many erudite workers. The new preparations in the line of materia medica are without number or abatement and profuse enough to bewilder a practitioner who should be disposed to test them all. Most of them soon fall into oblivion, but some come to stay, and add materially to our armament against disease.

It is but forty-three and forty-four years since the greatest discoveries of the entire century were made in the line of medicine. I allude to the first use of ether in 1846 and chloroform in 1847 as anæsthetics—priceless boons to suffering humanity for all coming time. How these agents rob operations of their terror and make possible in surgery what was heretofore not to be thought of!

Professor Lawson Tait, president of the British Medical Association, at its recent meeting in July last gave special prominence to this thought. I quote from his address as follows, as reported in the London *Times:* "He said that he paused in wonderment when he contemplated the surgical achievements of his own lifetime. The year 1847 was the real birthdate of their work, when there first fell upon man that gentle slumber, anticipated in the beautiful legend of the garden of Eden when Adam's rib was resected, but which was not brought into the region of actual fact till that memorable night in Queen Street, when Simpson, Keith, and Mathews Duncan 'were all under the table in a minute or two,' to quote Simpson's own graphic description. What had gone before that time was mere groping in the dark, and what had happened since could never have been ventured upon but for that greatest of all human blessings—anæsthesia. That had been to surgery what the motive power of steam had been for the arts, manufactures, and for commerce—it had revolutionized everything in connection with their art. And yet they were so accustomed now to take the advantage as a matter of course that they had almost forgotten its history. They were apt to ignore the fact that all our brilliant advancements of to-day could never have been arrived at but for chloroform—they could not have developed the splendid work of the modern ophthalmic surgeon, and the modern development of abdominal surgery never would have been dreamed of but for the genius and indomitable fighting qualities of James Young Simpson, who thrashed out the victory of anæsthesia and gave them the anæsthetic which for more than half a century had held its own against all comers. This, the greatest of all medical triumphs, at once broke down the barriers which had hindered the development of their art, and a vast change in surgical practice became apparent."

But I must not weary you. The great ocean of medical history lies before us; I have only picked up a little pebble on the shore with which to beguile your attention for a brief half-hour.

In conclusion, I desire to thank you for the honor conferred one year ago when you placed me in the president's chair. I have tried to serve the interests of our society as best I could, and am grateful to all who have so kindly assisted to add interest to our meetings.

In returning into your hands this honorable office I would in these last words urge you to cultivate still more the fraternal spirit that should pervade all our hearts and firmly unite us in every measure that tends to make the duties of the profession we have chosen for our life-work more endurable and enjoyable by the sympathy and good fellowship of our medical brethren.

Realizing the fact that none of us are infallible or free from faults, let us look charitably upon the imperfections or undesirable qualities of others, and strive by our example to strengthen the bonds of brotherhood and rejoice in the prosperity and sympathize in the adversity of those who, like us, are earnestly trying to properly fill the mission assigned us in the God-like profession we represent.

Original Communications.

FRACTURES AT THE ELBOW JOINT.*

By THOMAS H. MANLEY, M. D.

Fractures which open into or implicate the articulation at the elbow are not of frequent occurrence. Although not always followed by serious organic changes in the arthritic structures, yet in the vast majority of cases of traumatic lesions which involve the bone, regardless of how the injury may be treated, the normal usefulness of the limb is usually thereafter considerably diminished.

A fracture at the elbow joint, as elsewhere, is always attended with more or less participation of the soft parts; those structures which enter into the composition of the joint itself—the synovial, ligamentous, tendinous, muscular, vascular, and neural—so that the ultimate perfect or imperfect consolidation of bone may be a matter of minor consideration compared with the pathological changes wrought in the enveloping and adjacent parts.

Certainly much will depend on the skillful and intelligent application of sound surgical principles and assiduous attention; but even with this, in the light of our present knowledge, we can not always wholly prevent atrophy, ankylosis, paresis, and painful swelling resulting.

The advances of modern surgery, in the way of more efficient hæmostasis and prevention of wound infection, have made but little, if any, impress on fractures, except those which open through the tissues.

Free incision over the seat of fractures is not a permissible procedure, either for purposes of diagnosis or adjustment of fragments; hence, in this region of the elbow, where the evidence of fracture is often so obscure and every species of treatment often unsatisfactory, antiseptic surgery avails us nothing. Accordingly, we are thrown back on the identical resources which have been applied for centuries, and we possess nothing more.

When it is remembered that the elbow joint is the center of a sextuple action, over which pass, are inserted into, or arise from, six separate sets of muscles, which are concerned in flexion and extension of the forearm and of the fingers and hand, and pronation and supination of the hand and wrist, we may perceive and better appreciate the disastrous consequences which may attend a lesion disturbing its integrity.

The elbow has an interesting mechanical construction. Practically it may be regarded as part of the prehensile organ, the hand. It is a hinge joint, the trochlea being the fulcrum, the forearm and hand the resistance, and the tendons and muscles the power. Its articulating surfaces are nearly wholly inclosed by bone. Fifteen muscles and tendons pass over or into the heads of the bones at the elbow. This joint also lodges the round, rotatory head of the radius. Large blood trunks and nerves pass over this articulation on their way to the forearm and hand. The functions of this joint are varied and complex, and it imparts a greater diversity of motion than any other in the skeleton. In early life, when organic elements predominate in the bone composition, when the articular heads are resilient and elastic, when the muscles are undeveloped and the ligamentous supports are distensible, a simple dislocation of the radial head or of the humerus may occur; but later in life, when the demands of advancing age are to be supplied, the bones have consolidated, the coronoid processes of the olecranon, which are cartilage-tipped till the tenth year, have become firm and resistant by the acquisition of a calcareous deposit, and dislocations in these situations after adult age is attained are scarcely possible without an associate lesion of bone, and we have accordingly what is commonly designated a fracture dislocation.

Independent of gross bone lesion, fracture, or fracture and dislocation at the elbow, we may witness lamentable consequences attend pathological change following injuries, the violence of which has been sustained by synovial capsule, the blood-vessels, or the nerves.

Desault reported a case in his practice of gangrene almost immediately following a violent blow on the flexure fold of the elbow.

A most painful and chronic inflammation of the cellular tissues, followed by induration and thickening of the superimposed parts, has resulted from sprains, and not a few cases of paralysis of the forearm and fingers are found in surgical literature following non-osseous traumatisms at the elbow.

Acute synovitis is one of those affections so often encountered in elbow-joint injuries which, by its free effusion into the capsule and great pain, masks diagnosis when a fracture is suspected.

We may, for purposes of description, divide those fractures, on an anatomical basis, into, first, those which involve the inferior extremity of the humerus, and, secondly, those which occupy the head of the ulna, and compound fractures.

Many authors divide and subdivide them, giving them a most complex and extended classification, which, to my mind and in my experience, I must say, can serve no useful purpose to the practitioner who is called on tó deal with them.

Causes, Active and Predisposing, which may lead to Fracture at the Elbow Joint.—Age is unquestionably an important factor, for, according to Malgaigne's tables, they occur in children more than three times as often as in adults.

This greater liability to fracture in this situation in early life may, perhaps, be partly explained by delay in the perfect consolidation of the osseous centers, thereby favoring epiphyseal separation and disorganization of bone.

The inferior head of the humerus at birth being composed of four independent centers—one for each condyle and epicondyle, one for the trochlea, and one for the eminentia capitata—with those very young children the greater liability to fracture may be partly explained by delay in the ossific centers consolidating, hence favoring epiphyseal separation or disunion of bone on moderate violence.

---

* Read before the Harlem Medical Association, March 4, 1891.

Osteogenetic processes may be retarded or imperfectly completed in growing children who inherit or acquire a strumous or syphilitic diathesis, rickets, or any other constitutional malady which interferes with normal processes of nutrition, so that when direct violence is brought to bear on those tuberous buttresses of bone at the elbow, either by a severe strain or twist, or when the force has been transmitted through the humeral shaft from above or the forearm from below, the bone will yield at its weakest point, or where concentrated force is sustained.

Although not having ever had the opportunity of seeing or examining post mortem any cases of this variety of lesion in early childhood, yet I am convinced that the real pathological condition in the majority of such cases is limited to the epiphyseal junctions, and in this view I am supported by several distinguished authorities of a past generation and of our own times.

In the growing youth the immediate sequelæ of a fracture at the elbow are not so distinctly accentuated as with the adult.

The bones are not so brittle, the periosteum is much thicker, the soft parts are very elastic, and the recuperative processes are at the climax of their activity.

Fractures at the elbow joint in adults are always the result of great and direct violence, particularly when their situation is in the head of the humerus.

I have never but once witnessed a fracture which involved the condyles in the matured female, although in early childhood they are as commonly encountered in one sex as the other. I know of no case recorded of fracture in mid-life of the supra-condyloid variety, implicating the capsule or ligaments, which was induced solely by muscular contraction.

Although there is some analogy of action in knee and elbow joints, there is in reality but little in structure and function. The quadriceps extensor is a powerful, active muscle, which serves the double purpose of maintaining the trunk on the femora and performs a prominent part in locomotion.

The knee has a powerful tendinous and ligamentous development; *per contra*, at the elbow the triceps extensor cubiti serves but a subsidiary, passive part, and possesses in contractile strength but little more than one half of that exercised by its antagonists anteriorly, the biceps and brachialis anticus. Besides, the surfaces of the elbow joint are maintained in position and protected from displacement and violence by a peculiar conformation and adjustment of osseous structures, by which the articulating surfaces of the trochlea are interlocked and largely enveloped. That part of the joint least inclosed by the sigmoid plate of the olecranon, when the arm is in a position of forced extension, lies beneath an immense mass of muscles.

Direct and considerable force, accordingly, are necessary to occasion fracture here.

In the adult, violent blows or falls, in which the momentum is received and diffused through the bones, lead to fracture. In one case which came under my observation the patient was a painter, who, in falling from a ladder, threw out his elbows to save himself. Another was kicked by a horse. In another, a machinist, his forearm was caught in a swiftly revolving pulley, and by a combination of a twist and pressure the spongy end of the humerus was badly fractured. Five of my cases were the result of railroad accidents, and, as might be expected, the soft parts suffered extensive contusion and violent wrenching. Others entered hospital with similar histories.

In every instance in which we had the genuine supra-condyloid fracture—the *sus-condylienne* of Malgaigne—there was a history of a direct crushing force, in which it seemed that the wedge-shaped edge of the coronoid process of the olecranon had split and sundered the condyles from the shaft.

In four simple fractures of the olecranon which I have treated there was very slight separation of the fragments, and but little impairment of motion followed treatment.

Fracture of the external condyle of the eminentia capitata may be caused by transmitted force from the hand through the radius, with or without laceration of the external, lateral, and orbicular ligaments.

Fracture of the internal condyle is of most frequent occurrence. Being a more superficial projection of bone, it is greatly exposed. Besides, as it is composed mainly of cancellous elements, it offers but feeble resistance to concentrated and well-directed force, that variety which must be always applied to detach this jutting buttress of bone.

Compound fractures with or without dislocation, when involving the elbow joint and disorganizing more or less the head of the humerus, in pre-antiseptic time were usually regarded as conditions justifying immediate amputation.

It requires terrible violence to so mutilate and disorganize as to lay bare the interior of the joint and shatter bone.

Compound fractures are of unusual occurrence, but are of extreme gravity under any circumstances. Though having had opportunities to observe many bone lesions and dislocations, besides having seen more than a thousand fractures, I have met with but four compound fractures opening into the elbow joint in the living, or those in whom any possible prospect of saving the limb was entertained.

Fracture dislocations, so called, at the elbow joint we observe when the ligaments have been torn extensively or stretched. There are no special reasons why they should be separately classified, inasmuch as partial luxation of a bone is a common concomitant of every species of fracture which occurs in close proximity to a joint and lacerates its ligaments.

In those fractures which extend into the articulation and in which blood blends with the synovia there may be symptoms, local and general, of a most threatening character, which must be met and dealt with according to indication.

In the category of elbow fractures here described their limit superiorly will be the apex of the condyloid ridges, and inferiorly the radial tuberosity with the lowermost margin of the articular surface of the olecranon. In other words, those bony structures only which are concerned directly in joint movement.

Morbid Anatomy in Fractures at the Elbow Joint, and Pathological Changes observed.—The conditions of the parts immediately involved by a traumatism most conspicuously extending into the bony structure at the elbow vary according to the precise seat of lesion; its extent, duration, and complications; the physical state of the patient, and the means adopted to aid Nature in her efforts at restoration. Coincidently with fracture, surgical pathologists tell us, and we ourselves observe, the macroscopical conditions are such as we find in a fracture elsewhere in the skeleton. There will be a disorganization of bone, with more or less displacement of the fragments; free hæmorrhage from their ends, which will be greatly increased if the osseous structures gave way with a sharp cleavage, and if in displacement they tore through any of the neighboring larger vessels.

This hæmorrhage will diffuse itself under the periosteum, between the muscle sheaths, along the theca of the tendons, and beneath the integuments. It will be found in varying degrees of fluidity, according to circumstances. We will find muscles lacerated, ligaments ruptured, and, when the joint is compromised, the cartilaginous end of the bones split or fissured. The nerve-trunks or their larger branches share in the general mutilation, and may be found, in different situations, rent in two, or perhaps torn away, by the jagged ends of the bones. Should immediate shock have passed away, the sanguineous effusion will be large and the tissues *en masse* will be stained a deep crimson.

In a general way it will be found that the normal relations of the parts have been greatly changed by laceration and by displacement, and by the large extravasate into adjacent tissues.

The patient having reacted from shock, Nature proceeds to the work of repair; and now we enter upon the second phase after injury—the first stage of the reparative process.

Should the patient be cut off by some intercurrent malady, or sink from secondary complications at this time and an opportunity for examination of the injured part be permitted, we will notice the profound changes which have taken place in the space of a few days.

The joint is often immovably ankylosed, the integuments over the fracture deeply ecchymosed and everywhere swollen and glassy, but not œdematous. On division, the lips of the incision widely separate, and, as the incision is deepened, the tissues everywhere give issue to a blood-stained, fibroplastic exudate. The muscular tissue is soft and flabby, and the oily elements of the medulla mingle with the free transudate. The periosteum, considerably thickened, is of a soft, velvety consistence.

Little change is observable in the bone at this stage, except that it now lies imbedded in a mass of inflammatory exudate, through which may be seen, in those parts most accessible to the eye, long, red streaks, like budding capillaries. What is now most striking is the homogeneity of the plastic exudate, which seems to have indiscriminately bound together the muscles, fascia, vessels, lymphatics, nerves, and exposed ends of bones into one cohesive mass.

When the third and final stage is reached of repair, the discoloration of the cuticle has mostly disappeared.

Nothing remains, except the peculiar yellow stain arising from a decomposition of the iron pigment of the blood in the process of liberation and absorption. The extreme tumefaction has vanished, but there lingers yet considerable fullness at the seat of fracture and about the joint itself.

The elbow remains ankylosed in varying degrees and refuses to bend much beyond the angle it assumed immediately following the fracture.

The digital, metacarpo-phalangeal, radio-carpal, and radio-ulnar movements are not so free and pliant as normal, and from the elbow down there is an evident and marked discrepancy between the contour, outline, and size of the sound and injured limb. On making a section of the parts, traces of recent hyperplasia remain.

Adhesions are present as numerous as ever, though now, not having been disposed of by the absorbents, they have undergone fibrinous changes, and become firm and inelastic.

Coming to the vascular structures, we shall often discover evidences of pathological changes in the walls of the deep-seated veins, which, arising from a phlebitis and a hyperplasia of tissue, have in places effected a rigidity of the vessels and a narrowing of their lumina.

At the seat of fracture, particularly when extending into the joint, we shall discover unmistakable traces of inflammatory changes in the bone itself, the periosteum, the capsule, and connective tissues.

We may perceive that the head of the bone is unevenly enlarged, that the process of ossification was but incompletely performed, and that the segregation of the histological elements at the time of consolidation was but imperfectly completed, so that even the soft, plastic elements of the provisional callus have not been absorbed, nor have the calcareous elements assumed anything like the anatomical arrangement of new bone.

These are a few of the more common morbid changes seen during the reparative processes of the fracture at the elbow joint. They are those of ordinary fracture seen elsewhere, plus complications arising from implication of contiguous parts, and it is this which gives to those injuries their serious significance.

With a view to a proper comprehension of the principles by which we should be guided and for the purpose of enabling us to predict probable results, it may be well to notice some of the more pronounced pathological phenomena in Nature's efforts at reconstruction. The first is the presence of hæmorrhage, either into the loose connective tissue or into the articulation.

In a healthy individual, provided no large vessel has been opened by a spiculum of bone, this should occasion no trouble, for we know that in fractures of the patella and in many instances of severe sprains and contusions of the knee joint there is often a copious effusion of blood into the synovial capsule, which undergoes disintegration and absorption without the slightest detriment to the articulation. Hence hæmorrhage in itself, in moderate amount, when speedily absorbed here, should not constitute an obstacle to restoration of function. But, unfortunately, at the elbow joint I am confident, when the extravasate is abundant and the patient is of adult age or beyond it, either it fails of complete absorption and organizes, or else it acts as an irritant and gives rise to a low grade of inflammation.

The active cellulitis which arises, as an ordinary sequence of an extensive fracture which directly compromises the elbow joint, is attended with considerable swelling, pain, and stiffness, so that it, both directly and indirectly —though it may be an associate element of repair—is a source of danger to the future integrity of the joint; directly, by so distending the parts as to obscure diagnosis and prevent the adaptation of a proper appliance, and indirectly by its pressure on the synovial membrane, so as to excite cell proliferation and organic changes.

The veins are so compressed that the circulation through them is languid, and a phlebitis is developed, which pursues a chronic rebellious course. The nerves share with the blood-vessels and absorbents the consequences of tension and pressure. Lymphangeitis arises, and neuritis, with impairment of sensation and partial inhibition of the reflexes. Trophic changes in distant parts mark the pathological state in the nerve cylinders.

As a sequence of their complex and diversified pathological phenomena, which are modified or aggravated according to circumstances, which have reference to what have already been mentioned, the joint seldom or never quite regains its former strength and mobility.

Diagnosis.—The diagnosis of fractures involving the elbow joint is often an impossibility, both immediately after injury or at a more remote date.

The classical symptoms of fracture—increased mobility with deformity—are often wholly absent. With young growing children, however, the case is different, as they have but a very thin layer of fat, if any, interposing between the skin and bone; and as their muscular system is but poorly developed, the bony prominences lie very superficially, so that the contraction of the muscles does not rigidly fix the fragments; hence one can usually, without much difficulty, differentiate or locate the fracture. Even here, with them, however, the bone lesion may defy us to unmask it. I have seen more than one case in children when I was in ignorance of the positive nature of the fracture, if there indeed were any. If the broken bone be not displaced and there be considerable tumefaction, the difficulties are nearly insurmountable. This is the predicament, particularly when the lad conceals his infirmity for a few days, or when the parents imagine that the arm is simply bruised and considerable time elapses before the case is seen.

Whether properly adjusted or not, a fracture in early youth glues together, oftentimes in a very short period, so firmly that it will require considerable force to separate the fragments.

Now, with the adult, especially the female, with a rotund, plump arm, the flexor muscles in a state of spasmodic contraction, the injured region terribly sensitive to the slightest manipulation, and with the entire absence of any deformity, we may have a condition before us which will defy surgical art to elucidate.

We might ask, Why not anæsthetize, render the patient unconscious to pain, and relax the muscles? But practitioners have not always the means of reimbursing an associate for giving the narcotic, even though he is accessible. The patient may and has the right to refuse it. And, after all, even under the coma of pulmonary anæsthesia, yet we may fail to locate with precision the fracture, or even say with certainty or not whether the case may be one of violent wrench or contusion, in which the soft parts have sustained rupture or laceration, the ligamentous structures having given way, or possibly one or more muscles having been torn from its attachments.

Without question, violent injury to large nerve-trunks passing over the joint may excite some tetanic contractions of the muscles and neuralgic pains, when this is associated with extensive tumefaction. When the fracture passes horizontally across the triangular condyloid plate there can be no difficulty in diagnosis, nor when either a condyle or epicondyle is separately broken off. The same is true of the olecranon. A traumatic solution of continuity of this bone can scarcely escape detection when limited to the triangular space, occupied externally by the subcutaneous bursa.

Those sharply hooked angular flanges of the olecranon, which in extreme flexion and extension of the forearm are lodged in the anterior and posterior condyloid fossæ, may be fractured and wholly escape detection.

We have very few accessory aids to diagnosis in elbow-joint fractures. There is often no characteristic deformity or displacement, no distinctive pain, no subjective or objective symptom pathognomonic of traumatic bone lesion.

Happily for the patient and practitioner, in those obscure cases an absolute diagnosis is immaterial, and hence we should be cautious when we are in doubt not to inflict unnecessary violence in endeavoring to reach a diagnosis by aid of manipulation.

Prognosis.—Having examined somewhat cursorily into the structural composition of the elbow joint, its mechanical action, and its structural arrangement, we may easily apprehend that an extensive solution of bone continuity by accident may lead to most serious results so far as perfect restoration of function is concerned, or even preservation of limb or life itself when the fracture is of a compound character.

It is scarcely possible to fracture the lower articulating end of the humerus without such violence as must inevitably inflict considerable destruction to contiguous parts, to the musculo-spiral, internal cutaneous, median, or ulnar nerves, which are so lodged, some on the torn synovial membrane or periosteum, that they can not always escape.

The ligaments are lacerated, the muscles in close proximity to the shattered bone suffering violent tension or contusion. Many of the numerous arterial branches and venous radicles which course freely through the superincumbent tissues give way in every direction, and blood filters into the loose connective tissues between the muscle sheaths and into the joint itself.

Accordingly, in giving a prognosis, the ultimate replacement and consolidation of bone may be but a minor consideration, for there can be no question that not infrequently, when osseous restoration is complete at the seat of injury, yet serious impairment of function often remains.

An important nerve-trunk divided or lacerated, the normal grip of the hand and fingers is much enfeebled or lost. There is numbness of the integument, and trophic implication is manifest by a wasting of the muscles, fat, and cellular tissues.

When the vaso-motor nerves have been compromised there is a languid blood-flow through the peripheral vascular channels; the fingers, hand, forearm, and elbow itself are swollen, either through a free transudate or diapedesis from the vascular system, or else as the result of an unabsorbed plastic exudate. When high inflammatory action supervenes, there is an immense expression from the congested vessels, spreading far and wide in every direction, which, in this situation, is singularly prone to resist absorption, but, contrariwise, undergoes fibrous organization, and if left undisturbed will quickly and permanently bind everything in its immediate neighborhood into one immovable mass. This is particularly the case in adult age, though seldom so rapid or complete in children. This is why a more favorable prediction in one than the other when this untoward event occurs.

When, however, there is simple epiphyseal separation in a young child, without joint implication, recovery is rapid and complete.

The full consideration of compound fractures does not come within the scope of this essay, as it embraces the dealing with and treatment of flesh wounds; prognosis in those lesions, in the present instance, will be omitted.

From the foregoing considerations, it seems to me that with fractures at the elbow joint we must always regard them as most unfortunate, as wholly beyond our power to remedy without some crippling, weakening, or deformity, with limitation of strength and function; in fact, they must be classified with the Colles or intracapsular fractures at the hip joint, which are invariably followed by well-marked pathological changes and permanent impairment of function.

In support of the views herein enunciated, with reference to prognosis in this class of injuries, I have consulted some of the American, English, and French authors. Gross says: "Fractures of the lower extremities of the humerus, involving the elbow joint, are especially liable to be followed by severe inflammation of the synovial membrane, extensive effusion, ankylosis, and deformity. Even in the simple forms of these injuries, where the treatment is skillfully conducted, there is great danger of unfavorable results." Packard says: "Fracture of the lower end of the humerus is common in children up to the tenth year. Its course and results are apt to be very bad. Severe synovitis is common, and, though actively combated, not running a high course, a certain amount of stiffness is always induced. This, as a general rule, is often overcome, but there is always left a tendency to pain and weakness. Inflammation following fracture here occasionally tends to serious results, damage to the nerve tissue, laceration of the blood-vessels, and abnormal development of callus. Prognosis is grave, by reason of the obstacles which oppose reduction, by danger of the implication of the radial articulation."

Hamilton, in his masterly work on fractures and dislocations, speaks unequivocally of the serious results which frequently follow fractures in the vicinity of the elbow joint. He tells us that he has "witnessed paralysis, ankylosis, and gangrene follow them," and he cites a case in his own practice in which stiffness, atrophy, and weakness resulted; besides, he relates an interesting case in which a suit for malpractice was instituted against a respected practitioner, in whose practice the patient developed dry gangrene of the little and ring fingers from the pressure of a fragment on the ulnar nerve. In conclusion he warns against giving a premature or too sanguine prognosis.

Sir Astley Cooper says that "while, in the majority of cases in early life, fair use of the limb will attend fractures at the condyloid end of the humerus after treatment, yet a guarded prognosis should be always rendered, as a wasting and crippling of the limb are occasionally seen, regardless of the skill and attention bestowed."

Thomas Bryant likewise expresses himself, and says: "Fractures of the condyles of the humerus into the joint are always grave accidents, and are always followed by stiffness in the joint."

Malgaigne says: "The prognosis is not without gravity, not to speak of the accidents which may follow." Quoting from Mettegia, he tells us that this surgeon saw tetanus develop after a fracture opening into the elbow joint, and, though the limb was amputated, the patient died in convulsions. The swelling may threaten gangrene. Non-consolidation and deformity are not infrequent sequelæ.

Fano, speaking on the same subject, declares that "the great difficulty to motion following is the frequency of deformity, from the substitution of an angle salient outward for the normal salient inward; hence an impediment to full flexion in this articulation."

Dupuytren, Desault, Boyer, Larrey, and Chassaignac, in their various learned brochures and treatises on traumatic bone lesions, express themselves in a similar tenor when discussing elbow fractures.

Many authors, contemporaneous and ancient, give little or no space whatever to the question of prognosis. My own experience had long since led me to regard those fractures directly involving the elbow joint by participation of the condyles as among the most serious and unfortunate which the human skeleton can sustain, and all the authors with singular unanimity agree that this accident is a grave affair.

Treatment.—Although the best results will not always reward our efforts in the treatment of every description of fracture at the elbow joint, yet very much depends on the energetic application of judicious measures for the purpose of hastening union and securing the best possible functional results, for without this active and intelligent intervention on the part of the surgeon a crippled, useless limb will surely result, or a complication will arise which may demand its immediate sacrifice. In ordinary fractures a few simple principles are to be observed, so readily of application and easy of comprehension that even in our own time in Great Britain and Ireland the "natural bone-setter" still does a thriving business.

He has no pretensions to scientific knowledge, but seems to be guided by common sense, and often he has good results, as has many times been attested to by impartial and competent observers.

The general directions given in fracture are to first readjust the fragments; secondly, immobilize; and, thirdly, to give them rest by some retentive dressings. Unhappily, the first two of these directions must be ignored in serious fractures at this hinge joint. The young or inexperienced practitioner in his first case of fracture through the lower end of the humerus will, perhaps, find himself in a quandary. He sees the overlying tissues enormously swollen, with the joint immovable, and the slightest movement of the forearm gives most agonizing pain. His patient positively refuses to permit manipulation. Discovering none of the classic symptoms of fracture, he may take chances on a liniment and bandage, and tells his patient he has probably a bad sprain or contusion. Perchance he sees nothing more of his man until a notice for a malpractice suit is served on him when the joint is firmly ankylosed.

Finding excessive tumefaction with extreme rigidity on motion when the seat of fracture is above or below the epiphyseal line of the humerus, the primary indications will be best fulfilled by depletory measures, which will arrest inflammations and excessive vascular engorgement, such as free leeching, topical applications, cold or warm, or a comfortably adjusted bandage and suspension of the arm.

If ether is given in adjustment, great caution must be observed, as much harm may be done by too free manipulation. The arm should remain in a rectangular position, or a near approach to it, with such variation in treatment, modified as circumstances in each individual case will indicate. When, however, there is deformity in children or others at the time of injury, immediate reduction may be easily effected, and the primary dressings should include the adjustment of splints.

When the leg or forearm is fractured and painful swelling ensues, one instinctively places it in the flexed or semiflexed posture. The flexor muscles in every region of the body, except the back, are by all odds the most powerful. The relaxation of these muscles contributes powerfully in preventing spasm and relieving tension on the fragments. Hence we can understand the great value of the double inclined plane in fracture through both bones of the leg, and the reason, too, why the flexed or semiflexed position of the forearm is generally preferred in all fractures at the elbow, except those through the olecranon, attended with displacement, when we can comprehend why the extended position is the most appropriate.

The forearm, then, is usually flexed and the hand placed between pronation and supination. Now, various kinds of material are recommended for splints—mineral, vegetable, and animal; plaster of Paris, leather, wood, tin, zinc, and felt.

I have come to the conclusion that, although the gypsum bandage is the most economical and popular, it is also, in bad fractures at the elbow, the most unreliable, and I am confident that more cases of ankylosis and deformity follow since its introduction than were seen in the days when the surgeon applied his own mechanical skill in the construction of such splints as various cases required. A plaster bandage is scarcely dried before it slackens, and in order to readjust the limb, when it most needs rest it must be jolted and shaken in the sawing of the plaster and lifting the arm out of the mold; while with the divided splint we may from day to day slacken the bandage in the presence of swelling, and after its subsidence tighten without disturbance to the fracture.

I am well aware that many will take exception to my advice with respect to not always applying a permanent adjustment at the primary dressing, but I contend that, inasmuch as a splint can serve no useful purpose when there is an interlocking or impaction of the fragments, none should be employed. Nay, every sort of pressure which may embarrass the circulation must be removed and the peripheral or deep vessels in no way compromised by dangerous or needless pressure.

We shall not infrequently be called to cases which are apparently severe contusions, followed by a cellular inflammation and perhaps a traumatic arthritis.

With a case of this description it is always well, in its early stages, to treat it as a fracture, and the patient should be apprised of this being a possibility, which we have made ample provision for.

A few surgeons prefer the extended position in elbow-joint fractures, although a large number recommend the rectangular. Without question the latter position favors a more free circulation, relaxes the muscles, and tends to a more perfect adaptation of the fragments; besides, if ankylosis ensue, it leaves the most useful limb.

As ankylosis is so prone to follow these fractures, surgeons have for a long time been exercised with the question of how to obviate it, some advising almost immediate passive movement with a view of preventing subsequent stiffening, while others wait for the proverbial forty days.

If we admitted that forty days were necessary for the perfection of osseous union, then, indeed, to disturb the developing callus by any sort of manipulation would be worse than folly. But it has been laid down by Hunter and other observers, long since, and has been particularly verified by the late Sampson Gamgee, that fractures of bones, like lesions of the soft parts, unite by two distinct processes: by primary and secondary union; in the former, wholly without callus, in a few days; in the latter, by effusion of plastic material, hyperplasia of cell elements, and condensation of osseous material; not unlike—exclusive of the lime salts—ordinary cicatricial tissue, or the cement substance which Nature elaborates to seal and close in breaches of continuity.

In fractures of the elbow, Hamilton directed that, "after seven days, or even earlier, passive motion should be commenced and perseveringly employed until cure is accomplished."

Allis, of Philadelphia, on the contrary, takes strong ground against both the flexed position of the forearm and early motion.

Boyer says: "Since the days of Hippocrates the semiflexed position of the forearm is usually adopted; though," he adds, "in sundry cases, on theoretic grounds, the attitude of full extension would seem the most appropriate; but it is unsupportable to the patient, and, should ankylosis follow, he would be seriously incommoded."

Dupuytren immobilized the joint for a month before passive motions were begun. De la Motte waited for two or three weeks.

Astley Cooper recommended passive movements from the fifteenth day in children, or after the third week in adults, with a view of preventing ankylosis.

Stimson prefers the extended position of the forearm and is opposed to early motion, averring that early motion is painful and harmful by increasing and prolonging inflammation.

Desault, who was among the first to accurately describe the T-fracture at the elbow joint, was a strong advocate of early passive motion—after the first week in the child and after a month in the adult.

In fractures of the olecranon, Bonnet, Camper, Duverney, and Clermont, with such modification as each case suggested, always placed the arm in the semiflexed posture.

Malgaigne and Velpeau, in all cases of elbow-joint fracture accompanied with inflammatory tumefaction, first subdued this by local measures before the adjustment of splints.

It is evident, then, from the foregoing summary of the attitude of a few distinguished authorities, that they all appreciated the dangers attending severe fractures at the elbow joint—the ultimate stiffness, impaired action, or ankylosis—and, with few exceptions, they all prescribed the flexed position and early passive motion, especially in children.

I have never seen a case in which a fracture was definitely determined in the superior segment of the elbow joint recover without ankylosis, impaired action, or weakness, in varying degrees, remaining after treatment; and I do not believe that any method known to science will ever wholly obviate them, when this sundering of the humeral head extends down through the condyles and implicates the synovial investment.

If a case of alleged injury of this description were submitted to me, in which normal functional power was restored, I should feel inclined to believe that a mistake was made in diagnosis.

Passive motion I invariably employ early and often with children, commencing any time after the first week, feeling my way cautiously at the beginning, steadying the joint with one hand, while I use the forearm as a lever. With time, however, if the rigidity is rebellious, I do not hesitate to employ greater force until muscular or ligamentous resistance is wholly subdued.

I never have recourse to anæsthetics, and I do not deem them necessary when motion is initiated early.

In conjunction with forcible distention, a soothing oleaginous liniment, with moderate friction and massage, is very useful. I always apply a thin, soft flannel bandage next the skin, and reapply the splints after each séance.

At the expiration of a month, earlier or later as the case may be, gymnastic exercises should be commenced.

The horizontal bar can be readily extemporized by using a broom-stick tied at both ends with a strong cord coming down through two staples in the door-frame. The patient should exercise the hand and arm by lifting, pulling, and pushing. This exercise of the arm, to be efficient, must be methodically and persistently practiced for many weeks and sometimes several months.

These therapeutic procedures tend to prevent ankylosis by removing the conditions which favor it, by not permitting the free plastic exudate, so freely effused into surrounding parts, to organize and consolidate. Prompt and persistent motion undoubtedly hastens its early and complete dispersion.

For the man approaching or past the meridian of life little benefit will accrue from this early motion. The elements of the joint actively participate in this class, tumefaction is firm and voluminous, and the slightest movement is attended with terrible pain.

Here ether may be administered to aid diagnosis or liberate adhesions. But, when I have employed it, many times the ankylosis stubbornly resisted such force as was deemed compatible with safety, and oftentimes, when any additional motion was gained by this plan, it was quickly lost, the limb assuming its former angle. I shall not stop to consider those fractures of the epicondyles or head of the radius on this occasion, as they are not properly included in that category of fractures at the elbow which present special difficulties in their management.

Treatment of Absolute Ankylosis following Fracture at the Elbow Joint.—So far we have dealt with ankylosis dependent on various ætiological factors—on displacement of bone, extravasation of blood, spasm of muscle, inflammatory or serous exudate, immobilization of the articulation; and we have seen that the recognized therapeutic measures for their relief are as varied as are the causes; they are the readjustment of bone, abstraction of blood, local applications, pressure, motion, and exercise.

But there is a class of fractures at the elbow joint which do not come under the surgeon's observation until considerable time after the original injury, when firm ankylosis is established, the forearm being at a right angle, or between right angle and extension.

Within the past year four such cases of ankylosis of this description have been referred to me by Dr. John Dwyer, Dr. J. H. Bache, Dr. T. J. McGillicuddy, and Dr. James Moran, of this city. Three were boys under ten years old, and one was a young lady. In each case an anæsthetic was employed and the forearm forcibly extended. With the adult case complete extension could not be effected, even with quite considerable force.

In her case there was marked atrophy of the entire arm, with very considerable thickening of the osseous elements at the elbow.

After forcible disruption of the adhesions, passive motion was maintained in all cases with much benefit; but the progress of cure in these, as in all my preceding cases, was very tedious, though in all very fair functional results have been attained.

The ankylosis so commonly seen, either complete or partial, in the adult, after fracture involving the elbow, is quite unmanageable. The synovial investment with them will not tolerate early disturbance, as with the child; hence passive motion, if attempted, yields unsatisfactory results, and the distortion promptly recurs.

Myotomy, tenotomy, division of the contracted tissues, and resection of bone have, in turn, been tried in aggravated cases, but none of them are quite satisfactory. Division of the soft parts, particularly the sinewy structures, will tend to efface a distortion, but a weakness results in consequence. Resection of bone means invasion of the articulating capsule, destruction of the ligamentous stays, and either solid bony ankylosis or too much motion—a flaccid joint—a condition which leaves the limb wholly useless. If the arm must be ankylosed, by all means effect it at a right angle.

However, even in the worst cases, by being patiently and perseveringly dealt with, a moderate degree of movement may be secured by mild measures—by the bandage, bathing, friction, and properly directed exercise.

Medico-legal Aspect of Fractures at the Elbow Joint.—In rural or village practice, when a physician is called to a case of fracture of the kind here described, associated with much deformity, he should divide the responsibility by a consultation, inviting in the highest skill obtainable. Ir the patient's circumstances will not permit of this, then the possible consequences resulting from this accident should be clearly stated.

In our large cities the difficulty with an impecunious patient is quickly solved by sending him to the hospital, where ample facilities are available for treatment, and we hear no more from him except through the statistician, as he is not likely there to put his medical attendant on the defensive in a civil action.

Independent of directing one of the manner in which he will best protect his own interests, how to best provide against embarrassing and expensive litigation or judicial contest, medical jurisprudence obtrudes itself when a civil action is instituted by the injured, our patient, with a view of being reimbursed for the damage or impediments resulting from an elbow-joint fracture.

If the individual is a person who toils with his hands, he will sue for a sum adequate to reimburse him for the past and prospective losses arising from the diminished power or restricted motion of his forearm. When it is admitted that the injury was wholly attributable to his employer's carelessness, or master or corporation, the defendent admitting this, the law may be invoked in consequence only of the parties being unable to agree on the financial settlement.

Under these circumstances, the judge, in instructing the jury as to the amount to be awarded, must depend on expert medical testimony, not only for ascertaining the present actual condition of the limb, but also to determine what the future will do in the way of restoration of function or aggravation of the infirmity.

Certainly there are many factors which will influence us in each individual case, but I believe in a general way, in elbow-joint fractures in particular, we should act on a rule which is based on clinical facts and a pathological law, everything being equal, which is this—viz., that in every accident in a child or immature youth not entailing the loss of an organ or limb, as age advances, Nature will accomplish much in the way of recuperative growth and perfection of function; while with those who have reached the meridian of life, or are past it, time will rather aggravate than improve. Repair of a kind is effected, but not that of youth. Besides, the shock of injury now imparts to the system a most depressing influence, which often arouses into activity latent or hereditary maladies heretofore dormant.

At this later epoch of man's existence, the economy will, in health, provide for waste and repair, tissue metamorphosis, but it will reproduce nothing, and in time corporeal degenerative changes will exceed those of restitution. Hence we may say, in a general way, the younger the patient the greater the prospect of practical re-establishment of power, while, *per contra*, with those on the downward incline, time is almost certain to offer no prospect of complete restoration, and the crippled state must remain; for in youth we grow out of diseased conditions, and in advancing age we grow into them.

Deformities, trivial and permanent, associated with fractures at the elbow joint, may be grouped in three classes:

1. Those in which there is solid ankylosis, with thickening and induration, organic changes in the elbow joint, in the rectangular position.

2. Those in which more or less mobility remains, but the arm can not be completely flexed or extended.

3. That variety of recent origin in young children in which there is no wasting of muscle or paralysis.

With the first we may unhesitatingly say that the arm is crippled for all time and is beyond the reach of remedies.

In the second, while deformity and limitation of motion can not be wholly overcome, yet the limb is fairly useful, but perfect restoration of motion is out of the question.

Third. With this class we have the best results, for with intelligent, active treatment we usually secure fair function in the joint.

It has been evident that a multiplicity of circumstances will affect the issue in the class of injuries which have been considered, so that much tact and circumspection must be exercised as well as skill. At all events, I would take the liberty of earnestly warning all well-wishers and loyal members of the medical profession to exercise extreme caution when those dangerous, fault-finding patients come to them after having been treated for those fractures, who, not content often with having robbed their former medical attendant of his fee, are further desirous of inculpating him and drawing him into an expensive and iniquitous litigation.

In the thousand or more fractures which I have treated, fifty-one were at the elbow joint—one in twenty, about. As nine of those left the hospital, being ambulant cases, after primary dressing, I know nothing of the results.

Forty were in children under twelve years of age, and eleven were in adults. With seven of the younger children the cure was perfect. With the remaining thirty-three, more or less ankylosis and weakening remained.

In the adults three were compound fractures; with the other eight all had impaired strength and very limited motion at the elbow when treatment was discontinued.

No.*	Age.	Sex.	Arm.	Result.	Year.	Fracture.
1.	4	Male.	Left.	Perfect.	1876	Simple.
2.	12	“	Right.	Not good.	“	“
3.	14	Female.	“	“	1878	“
4.	6	Male.	Left.	“	1879	“
5.	41	“	Right.	Ankylosis.	1881	“
6.	9	“	Left.	Perfect.	1883	“
7.	7	Female.	“	Not perfect.	“	“
8.	30	“	“	“	“	Compound.
9.	16	Male.	“	Stiffening.	1884	Simple.
10.	5	Female.	“	Perfect.	“	“
11.	8	Male.	“	Not good.	“	Compound.
12.	7	Female.	Right.	Not perfect.	“	Simple.
13.	21	Male.	Left.	“	1885	“
14.	5	“	“	“	“	“
15.	8	Female.	“	“	“	“
16.	12	Male.	Right.	Deformity.	“	“
17.	6	Female.	“	Not good.	“	“
18.	19	Male.	Left.	“	1886	“
19.	5	Female.	“	“	“	“
20.	8	Male.	“	Perfect.	“	“
21.	51	“	Right.	Ankylosis.	“	Compound.
22.	14	“	Left.	Not good.	“	Simple.
23.	8	Female.	Right.	“	“	“
24.	7	Male.	Left.	Fair.	“	“
25.	4	Female.	“	Very fair.	“	“
26.	6	“	“	“	1887	“
27.	10	Male.	“	Not good.	“	“
28.	15	“	Right.	Fair.	“	“
29.	8	“	Left.	“	“	“
30.	27	“	Right.	Impaired action.	“	“
31.	11	Female.	Left.	Perfect.	1888	“
32.	6	Male.	Right.	Sound ankylosis.	“	“
33.	9	“	“	Not good.	“	Compound.
34.	31	“	Left.	Bad.	1889	Simple.
35.	5	Female.	“	Very poor.	“	“
36.	11	“	“	Very fair.	“	“
37.	8	Male.	Right.	Perfect.	“	“
38.	48	“	“	Stiffening.	“	“
39.	10	Female.	Left.	Not good.	“	“
40.	36	Male.	“	“	“	“
41.	5	“	Right.	Fair.	“	“
42.	12	Female.	Left.	“	“	“
43.	23	Male.	“	Not good.	1890	“
44.	4	“	“	Fair.	“	“
45.	6	Female.	Right.	“	“	“
46.	13	Male.	Left.	Very fair.	“	“
47.	5	“	“	“	“	“
48.	16	“	“	Not good.	“	“
49.	7	“	Right.	Perfect.	1891	“
50.	9	“	Left.	Fair.	“	“
51.	11	“	“	Not good.	“	“

Average age of each, something less than 14 years. Thirty-six males; 15 females. Left arm, 33 times; right arm, 18 times. Result very bad in 1; very fair in 29; ankylosis in 4; partial in 10; perfect result in 7. Cases were observed and treated in Lawrence, Mass.; in New York city; in private practice; and consultations in the almshouse and workhouse hospitals, Blackwell's Island, Ninety-ninth Street and Harlem Hospitals; and private institutions for the indigent and poor children of New York. Simple fractures, 47; compound, 4.

Bibliography.

Dupuytren. *Traité des os*, vol. ii, p. 189.
De la Motte. *Sur la fracture sus-condylienne.*
Sir Astley Cooper. *Fractures and Dislocations*, p. 307, second edition.
Boyer. *Brochure sur les fract. du bras.*
Desault. *Sur les fract.*, vol. i, p. 200.
Malgaigne. *Chirurg. leçons sur les os*, vol. ii, p. 312.
Hamilton. *Fractures and Dislocations.*
Cooper's *Surg. Dictionary.*
Gross. *Principles of Surgery*, 1st ed., vol. i, p. 200.
Stimson. *Fractures and Dislocations.*
Am. Encyc. of Surg.
Allison. *Handbook of Surg.*, p. 217.
L'ouvrage de Richter.
Bryant, Thomas. *Practice of Surg.*
Erichsen, 3d ed.

ERYTHROXYLON COCA:

THERAPEUTIC, HYGIENIC.

By P. DE PIETRA SANTA, M. D.,
PARIS, FRANCE.

> "Coca possesses the penetrating aroma of vegetable stimulants, the tonic properties of astringents, the antispasmodic qualities of bitters, and the nutritious, mucilaginous principles of the analeptic or alimentary plants."—LINNÆUS.

WHEN all the nations of the civilized world in a noble concert of enthusiasm and of gratitude are preparing to celebrate with the greatest *éclat* the four-hundredth anniversary of the discovery of America by Christopher Columbus, it appears to us opportune to review the various acquisitions to therapeutics and hygiene for which old Europe is indebted to young America.

After Peruvian bark, the first in chronological order as well as in importance is incontestably Peruvian coca, with its precious alkaloid, cocaine. If the introduction of coca into France at the beginning of this century did not create much stir, if for quite a long period it remained merely a scientific curiosity, and as the appanage of celebrated travelers who had learned its worth in its native country (Pappig, Tschudy, Mantegazza, *et al.*), it must be admitted, nevertheless, that it has been constantly the subject of earnest study, of varied researches, of endless experiments in the laboratories of chemistry and of physiology, and of most searching clinical observations.

It was principally from 1862 to 1870 that this movement for scientific investigation received a stimulus which caused Professor O. Reveil in 1872 to say: "This substance is destined to take an important rank in therapeutics."

The inaugural theses read before the Faculté de médecine of Paris by Demarle (1862), Moreno y Maiz (1868), and Ch. Gazeau (1870), and before the faculty of Strassburg by Lippmann (1868), gave to coca its standing in modern therapeutics by establishing in a positive way this fact—viz.: "That it produces an exaltation of life, an increase of muscular energy." To Ch. Fauvel belongs the merit of signalizing a second fact no less remarkable: "The anæsthetic action of coca on the mucous membrane of the pharynx, with its stimulating action on that of the larynx, have given it its characteristic name 'The tensor *par excellence* of the vocal bands.'"

Before enumerating the various therapeutic resources that coca offers us, it will not be amiss if we sketch the state of the question as it presents itself in Peru and other republics of South America. These descriptive data have been furnished the Société française d'hygiene in an interesting communication by Dr. Manticuzo, Colombian Consul at Tucuman (Argentine Republic).

---

* Another case of compound fracture at the elbow joint seen by me with Dr. G. D. McGauran, since these cases were tabulated, on Feb. 27th, in a child seven years old.

"Coca, indigenous to Bolivia, thrives in warm and moist regions free from frost, called 'jungas.' The aborigines of the country employ it usually by chewing the leaves to extract the juice. When the coca leaf is masticated, the juice, impregnated with saliva, acquires positive alimentary properties. It restores the flagging powers lost by physical or mental labor and becomes an efficacious stimulant in gastric and intestinal dyspepsia; it is in these conditions that coca is indicated to supply extra nerve force during long journeys by postilions, couriers, and soldiers."

The Bolivian army is regularly supplied with coca leaves, which form an integral part of their campaign rations.

These data, founded on the experience of centuries, carry with them the usual accompaniment of the marvelous and the supernatural, causing this celebrated plant to be looked upon by the natives of South America as an animated representation of the divinity, which, confirmed by modern researches, assigns to coca the precious and characteristic properties found concentrated in its essential alkaloid, cocaine, the physiological and therapeutic action of which has been so well elucidated through the works of Dr. Carl Koller in 1884, and Marc Laffont in 1888.

Let us go a step further into the domain of clinical observation. The stimulation of cerebro-spinal activity produced by coca, and that Mantegazza had foreseen, has been studied with great care by Feignaux and Libermann. The former asserts that it is marked in all cases "where a nervous trouble would seem to result from an atonic condition." The latter extols its use in the form of "vin Mariani" to combat morphinomania, nicotinism, and alcoholism.

The special applications of coca in the form of a diffusible "vin tonique," prompt in action, have been stated with precision by Dr. Mallez, "in those cases of depressed condition of the system and marked impoverishment of the blood resulting from the prolonged abuse of balsamics"; by Barth, Pidoux, Germain Sée, and many others "in chronic affection of the respiratory organs," where it always proves an element of tonicity and comfort.

In the successive and varied manifestations of tuberculosis it is vain to expect of coca antibacillary or germicidal properties; its action is far more certain, far more efficacious, and much deeper, in that it favorably modifies the prognosis by placing the system in a state of effective defense and, so to speak, making it impregnable.

In this connection I may be pardoned for recalling what I wrote in 1875 in a volume entitled *Le traitement rationnel de la phthisie pulmonaire:* "I prescribe daily with success and benefit coca in its most convenient, most agreeable, and most active form—that of vin tonique Mariani." Mariani must be justly considered as the introducer and the apostle of the fortunate importation of coca to Europe.

The periodic progress that has been made in our day in prophylactic hygiene and preventive medicine could not ignore the essential properties of the Peruvian plant. Coca has fully lived up to the promises and expectations that we hoped to realize, and even those who, in a spirit of disparagement, more or less interested, had conjured up before the public the specter of cocaism, finally realized that they were only unconscious plagiarists. In cases of abuse similar accusation had been formerly brought against coffee and tea, and yet the hygienic and therapeutic value of these precious substances has remained resplendently intact through ages and among all civilized people.

As to the opposition of constitutional skeptics or chronic fanatics, this can not be of long duration in an epoch that Lubonski called, very justly, "*L'époque de l'anémie et du lymphatisme,*" and which inspired our great writer Michelet with the alarm cry: "This frenzied life that we are leading to-day (*in aere parisiensi*), this life of terrible toil and excesses, it is upon the children that the consequences fall."

There lies the origin of the success of vin de coca in that, starting from a modest laboratory, it has spread like a beneficent train of blessing among all classes of the French population, to cross successively all the frontiers and carry back beyond the Atlantic, with all the improvements of art and of science, the gift that America had formerly made to Europe.

This rapid historical sketch would show a regrettable gap if I did not summarily indicate the powerful support that certain circumstances of our social life have given to the general employment of the vin de coca.

In a recent communication to the Academy of Medicine, Dr. Lancereaux did not hesitate to affirm (with clinical notes in hand) that chronic intoxication through essential drinks (absinthe, vermouth, amer picon, vulneraries, etc.) was spreading more and more, especially among ladies, their delicate taste naturally leading them to prefer cordials. "These drinks," he exclaimed, "cause the greatest ravages, for not only do they engender nervous complications which too often cause death, but they are besides the cause of denutrition or a weakening of the system which predisposes to tuberculosis, and causes death through pulmonary diseases. Consequently they should be considered as one of the greatest causes of depopulation."

As a conclusion to his address, Dr. Lancereaux asked the Academy of Medicine to warn the public of these dangers they were generally ignorant of, and the authorities whose mission it was to guard the public health.

I have truly but limited confidence in the intervention of the public authorities by the limitation of the sale of spirits and by high license, added to the high tax already levied on spirits; but I walk hand in hand with this eminent clinician when he proposes to enlighten public opinion by popular instruction, by hygienic tracts, and by illustrated lectures.

Advancing a step further in the domain of practical remedies, I would propose to give to alcoholic drinks and to essential liquors, as an efficacious and infallible succedaneum, the vin de coca Mariani, the moderator *par excellence* of the nerves, the tonic of muscular fiber, the strengthener of the weakened system—in a word, the unquestioned alleviator of physical suffering.

THE
NEW YORK MEDICAL JOURNAL,
A Weekly Review of Medicine.
Published by D. Appleton & Co.
Edited by Frank P. Foster, M. D.

NEW YORK, SATURDAY, JUNE 27, 1891.

A PSALM OF LONG LIFE.

The lives of some of our great men remind us of the possibility that they may continue to make foot-prints of honor and usefulness on the sands of time even long after they have passed the four-score limit. This, of course, applies chiefly to brain workers, our literary octogenarians, and it applies in a special sense to our own Holmes and to the late Mr. Bancroft. The genial Holmes is said to be fitting himself to compose his poetic survey of long life from a personal experience of the years beyond the psalmist's allotment. He has of later years, and especially in the winter season, been a close student of the art of personal hygiene, and he confesses that he has found his account in taking scrupulous care of himself. He was never robust, but his maturer years have found him still wiry and uncomplaining. Since his eightieth birthday, in 1889, his sanitary vigilance has been incessant. Knowing that pneumonia and bronchitis are the dread enemies of old age, he has given his best attention to keeping them at a distance. His rooms are furnished with thermometers, barometers, aerometers, and every other kind of instrument that will help him to ward off exposure to chill and cold. He governs his life by rule; everything else must yield to hygienic considerations. He never rises in the morning in winter until he has ascertained that the temperature of the air of his rooms and that of the water of his bath are just at the required point. His meals are the product of much thought and experience, and the regular allotment of his daily hours to literary work, or to reading, or to exercise is governed by the hands on the clock He has had occasion to give dietetics his personal study, and understands both the requirements and the limitations of his digestion. He has drawn up for himself a kind of private science of longevity, to which he attributes the continuance of his health and capacity for mental production. Intellectually he is still vigorous. The *British Medical Journal* comments regarding his recent essays, saying: "He is still one of the most vivacious of men; age can not wither the freshness of his interest in life or deaden the cheerful sparkle of his style. Even of 'crabbed age'—and the inevitable sorrows and bereavements which it brings with it—he writes with an easy wit, quite untinged by cynicism, and brightens the dismal subject so as to make it amusing even to his fellow-sufferers." Our worthy veteran keeps his armor bright, even if he can not carry it with the same suppleness and ease that made him years ago "the autocrat of many hearts."

It has been said that if a person desires to be long-lived—all do not confess that they wish it—it is necessary that the vehicle of his constitution should be constructed somewhat on the principle of the poet's own "one-horse shay," with all the parts well balanced and of equal durability. The tripod of longevity may be said to be a sound stomach, a warm domicile, and an unruffled temper; these three parts working well together will sustain the traveler wonderfully during the last stadium of life's journey. Inherited vigor must, of course, be taken into the account, as also the favoring circumstances of country life and the ability to employ the mind helpfully and cheerfully as age advances. The influence of inherited qualities has been stated mathematically, as, for example, in the following proposition: That the probable duration of a man's life may be known if the ages at death of his parents and grandparents are known, and that, if these are added together and then divided by six, the quotient will be his approximate term of life. If the quotient exceeds sixty, one year may be added for every five; if it falls below sixty, one year should be subtracted for every five. The presumption in this proposition is that with good fortune a man may equal, but he may not hope to excel, the average of his six parents' and grandparents' lives. In other words, not any considerable increment can be acquired by the average man exerting the average quality of self-care and forethought. The reported habits of centenarians might be held *prima facie* to be a fruitful source of information, but they have been found to be so various, almost conflicting, that no valid rules of life conducive to longevity can be laid down from them. An inference may be fairly drawn from some of these records of old men's habits that advanced age may be reached under conditions the very reverse of promising, and even contrary to the supposed requirements, provided the element of stamina in heredity is presupposed.

The dental question in old age is not the least interesting one. It does not confront the medical profession of to-day in any very practical way, because middle age settles the question for so many thousands who determine *sua sponte* to wear false dentures, for cosmetic as well as for masticatory purposes. But what should we say? Shall the edentulous aged person remain edentulous and use spoon victuals and milk chiefly, as appears to be the teaching of Nature? Nature seems at least to say to the toothless octogenarian: "You have come to that period of your life where the food that is bland and child like, that requires little effort in its comminution, is the best for you." Habit and love of comfort lead many to continue in age the use of false teeth, and, because of the facile mastication by their means, the ingestion of an excessive allowance of nitrogenous food—food that can not be assimilated so well as other forms, and that tends to overtask the digestive powers and to clog the emunctories. Fruits and vegetables that can be baked and eaten while warm commend themselves to nearly all aged persons; the avoidance of cold articles of diet is advisable and is generally the rule of practice without any admonition from the physician. Warmth of food and drink is as acceptable as it is appropriate.

MINOR PARAGRAPHS.

WHAT IS THE BEST NUTRITIVE ENEMA?

Nutritive enemata, though often indicated in cases of œsophageal or gastric disease, are comparatively rarely used, because of the general skepticism as to their utility. Either they are of but little nutritive value, as in the case of bouillon, or they are difficult of absorption by the rectum, as in the case of milk. Leube suggested, in 1872, the use of pancreatized beef-pulp, and afterward Ewald proposed the peptones of meat and of cheese as offering suitable material for rectal feeding. There is no doubt that the substances recommended by these writers are, in part at least, absorbed by the rectum. Nevertheless, their use has never become general, because of the difficulty of their preparation. Ewald, as a result of further experiments, found that eggs, even though not peptonized, were to a considerable extent absorbed by the rectal mucous membrane. According to the *Mercredi médical* for April 1st, Huber, of Zurich, has recently repeated Ewald's experiments in Professor Eichhorst's clinic, and announces that the absorption of the raw eggs is greatly aided by the addition of common salt. The salt is well borne, and causes, as a rule, no irritation of the bowel. He considers that eggs beaten up with salt, in the proportion of fifteen grains to each egg, are the best form of nutritive enema. His method of procedure is as follows: Two or three eggs are taken and thirty to forty-five grains of salt are added to them. They are slowly injected by means of a soft-rubber tube carried as high up into the bowel as possible. Three such enemata are given daily. An hour before each enema the rectum is cleared out by means of a large injection of warm water.

WOMEN PHARMACISTS.

The *Echo de Paris* has devoted considerable space to this question. It says that very frequently towns and especially hospitals run short of apothecaries. In the hospitals, under such circumstances, the compounding of medicines is intrusted to the nurses, who, through ignorance, make grave and often dangerous mistakes. The paper pleads earnestly for women to study pharmacy and to offer their good service, especially in small towns, where very few men can afford to follow the business, as the remuneration is too small. The *Progrès médical* remarks independently that, for some reason of prejudice perhaps, women pharmacists are not readily given appointments in large shops, and proposes to obviate this difficulty by admitting women pharmacists to the hospitals, where their work and services are needed and will be appreciated by the chiefs like the work of women medical students, who are admitted to different departments in hospitals. Besides, it is remarked, the encouragement for women to study pharmacy will lead to an additional number of trained and intelligent women. The *Progrès médical* hopes that its article will suffice to convince the authorities of the advisability of opening hospital appointments for women pharmacists.

THE IRISH CENSUS OF 1891.

The returns for the census taken on the night of April 5th show that, compared with 1881, there has been a decrease of 468,674 persons, or 9·1 per cent. The decrease in the number of males was equal to 8·5 per cent., and in females to 9·6 per cent. This falling off may chiefly be attributed to emigration, and in a lesser degree to the land agitation of the past few years. The births registered in Ireland during the decade commencing April 1, 1881, and ending March 31, 1891, were 1,147,432; and the deaths, 879,779. The natural increase of the population would thus appear to have been 267,653; 768,105 persons, however, emigrated during the same period, and the net result shown by these statistics is a decrease of 500,452, which is 31,778 more than the difference between the population enumerated in 1891 and that returned in 1881. This return is, however, only a preliminary one, and any errors will be corrected when fuller information is published. The population of Dublin increased during the decade by 2 per cent., and Belfast by 47,774, or an increase of 23 per cent. Since 1881 the Jews have increased in Ireland by 280·9 per cent.; and, owing to the cruel manner in which they are treated by the Russian Government, their number in Dublin may be expected to become considerably larger.

ITEMS, ETC.

The Deutsche Poliklinik, one of the charitable institutions that give gratuitous treatment to the poor and look after their sanitary needs, recently took possession of its new home, at No. 78 Seventh Street. The Poliklinik, which was founded in 1883 by seventeen physicians, was previously located in Sixth Street. The overcrowding of the Poliklinik with the poor, who always found ready hands there to help their ailments, made it a necessity for the trustees to look for a more spacious home. With the help of a few yearly benefit performances and the recently formed Ladies' Auxiliary Society of the German Poliklinik, the trustees have felt enabled to purchase the above-mentioned house. The building, which has been especially adapted for the purpose, answers all the requirements in regard to sanitary condition. Each department has its commodious apartments, with all the necessary implements attached to it. There are spacious waiting-rooms, a pharmacy, an assembly room for the medical staff, etc. The premises were open for public inspection on Sunday, the 14th inst., from 3 to 6 o'clock P. M., and at the same time a reception was given to the members of the press. A representative of this journal visited the building, and was much pleased with the arrangements. The institution is certainly a most deserving one.

The Medical Association of Central New York.—A meeting was held in Buffalo on the 2d inst. The following officers were elected for the ensuing year: President, Dr. Alvin A. Hubbell, of Buffalo; vice-presidents, Dr. Louis A. Weigel, of Rochester, and Dr. Henry L. Elsner, of Syracuse; secretary, Dr. Edward B. Angell, of Rochester; treasurer, Dr. Alfred Mercer, of Syracuse. The meetings will hereafter be held once a year, on the first Tuesday of June, in Buffalo, Syracuse, and Rochester, alternately. The next meeting will be held in Syracuse.

The Philadelphia Polyclinic and College for Graduates in Medicine.—Dr. H. R. Wharton has been elected lecturer on the surgical diseases of children; Dr. C. P. Noble, lecturer on gynæcology; Dr. J. K. Young, lecturer on orthopædic surgery; and Dr. G. Betton Massey, lecturer on gynæcological electro-therapeutics.

The Medico-legal Society of Chicago.—At the annual meeting held on the 6th inst., Judge O. H. Horton was elected president for the coming year; Dr. D. R. Brower and Dr. James Burry, vice-presidents; Dr. Joseph Matteson, treasurer; and Dr. Archibald Church, secretary.

The Manitoba Medical Association held its first annual meeting in Winnipeg, on the 10th and 11th inst. Mr. Ernest Hart, of London, the editor of the *British Medical Journal* and the chairman of the parliamentary committee of the British Medical Association, was present and addressed the meeting, and a branch of the British Medical Association was formed, largely by his efforts.

Medical Education in Canada.—The Medical Council of the College of Physicians and Surgeons of Ontario recently passed the following resolution:

"On and after the 1st of July, 1892, every student must spend a period of five years in actual professional studies, except as hereinafter provided, and the prescribed period of studies shall include four winter sessions of six months each and one summer session of ten weeks; the fifth year shall be devoted to clinical work, six months of which may be spent with a registered practitioner in Ontario and six months at one or more public hospitals, dispensaries, or laboratories, Canadian, British, or foreign, attended after being registered as a medical student in the register of the College of Physicians and Surgeons of Ontario; but any change in the curriculum of studies fixed by the council shall not come into effect until one year after such change is made."

Ichthyol Varnish.—"Dr. Unna considers that for certain purposes a waterless [*sic*] ichthyol varnish possesses advantages over the usual preparations, and gives the following formula for its preparation: Ichthyol, 40 parts; starch, 40; solution of albumin, 1 to 1·5; water to 100. The starch is first moistened with the water, then the ichthyol well rubbed up with it, and, lastly, the solution of albumin is added. For surgical purposes he suggests another formula: Ichthyol, 25 parts; carbolic acid, 2·5; starch, 50; water, 22·5. The ichthyol and the carbolic acid are dissolved in warm water. Out of the solution when cool, the carbolic acid is not precipitated, although it is only soluble to the extent of 6 to 7 per cent. in distilled water. To this solution starch is then gradually added. He finds that this waterless [*sic*] ichthyol varnish combines all the advantages of the ordinary composite ichthyol preparations in the treatment of localized affections of the skin, and that it is better borne."—*British and Colonial Druggist.*

Army Intelligence.—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from June 7 to June 20, 1891:*

Alexander, Charles T., Lieutenant-Colonel and Surgeon, Attending Surgeon in New York city, is, by direction of the Acting Secretary of War, in addition to his other duties, assigned to duty as examiner of recruits in that city. Par. 21, S. O. 132, A. G. O., June 10, 1891.

Walker, Freeman V., First Lieutenant and Assistant Surgeon. The leave of absence for seven days granted by Orders No. 100, c. s., Fort D. A. Russell, Wyoming, is extended twenty-three days. Par. 6, S. O. 68, Department of the Platte, June 8, 1891.

Harvey, Philip F., Major and Surgeon. The leave of absence for seven days granted by Orders No. 96, c. s., Fort Keogh, Montana, is extended fourteen days. Par. 2, S. O. 98, Department of Dakota, June 5, 1891.

Byrne, Charles B., Major and Surgeon, is granted, with the approval of the Secretary of War, leave of absence for fifteen days, to take effect on being relieved from duty at Fort McHenry, Maryland. Par. 14, S. O. 130, A. G. O., June 8, 1891.

By direction of the Secretary of War, the leave of absence on surgeon's certificate of disability granted Horton, Samuel M., Major and Surgeon, in S. O. 49, March 4, 1891, from this office, is extended three months, on surgeon's certificate of disability. Par. 6, S. O. 129, A. G. O., June 4, 1891.

Borden, William C., Captain and Assistant Surgeon, will, by direction of the Secretary of War, upon the final abandonment of Fort Davis, Texas, report in person to the commanding officer, Jackson Barracks, Louisiana, for duty at that post. Par. 4, S. O. 139, A. G. O., June 18, 1891.

McKee, James C., Lieutenant-Colonel and Surgeon, having been found incapacitated for active service on account of disability incident to the service, is, by direction of the President, retired from active service this date, under the provisions of Section 1251, R. S. Par. 4, S. O. 137, A. G. O., June 16, 1891.

Taylor, Blair D., Captain and Assistant Surgeon, is granted leave of absence for one month, to take effect on or about the 14th proximo. Par. 3, S. O. 65, Department of the Missouri, June 15, 1891.

Baily, Joseph C., Lieutenant-Colonel and Assistant Medical Purveyor, is, by direction of the Acting Secretary of War, granted leave of absence for two months on surgeon's certificate of disability, with permission to leave the Department of Texas, and authority to enter the Army and Navy General Hospital, Hot Springs, Ark., for treatment therein for a period of one month. Par. 12, S. O. 134, Washington, June 12, 1891.

Naval Intelligence.—*Official List of Changes in the Medical Corps of the United States Navy for the week ending June 20, 1891:*

Ruth, M. L., Surgeon. Detached from U. S. Steamer Newark and granted leave of absence for six months, with permission to leave the United States.

Bright, George A., Surgeon. Ordered to the U. S. Steamer Newark.

Pigott, M. R., Assistant Surgeon. Ordered to the U. S. Receiving-ship Independence.

Wells, Howard, Surgeon. Detached from Naval Hospital, Chelsea, and to wait orders.

Steele, J. M., Passed Assistant Surgeon. Ordered to Naval Hospital, Chelsea, Massachusetts.

Letters to the Editor.

INTRA-UTERINE AIR.

Philadelphia, *June 21, 1891.*

To the Editor of the New York Medical Journal:

Sir: The replacement of the liquor amnii by air during labor can be demonstrated by any physician by the simple expedient of percussing the uterine globe before and after the rupture of the membranes. Percussion before their rupture will yield uniform dullness. Percussion after their rupture will give diminished dullness over the fœtal body and limbs, but distinct resonance at the fundus and in spots along the sides of the uterus—*i. e.*, above and on each side of the child. The resonance changes in position with the movements of the fœtus.

When the child and the placenta are expelled, percussion over the hard uterine ball exhibits universal dullness again. Within twelve or twenty-four hours afterward, however, when the uterus has become somewhat relaxed and has ascended toward the umbilicus, percussion will show a fair amount of resonance.

These observations, which I first made in a number of cases in private practice, and subsequently in cases in the Philadelphia Lying-in Charity and in the Philadelphia Maternity Hospital, tend to show that atmospheric pressure is an important factor, not only during labor, but also in producing the ascent of the uterus during pregnancy, and again for a brief period after the expulsion of the placenta, and in supporting it at all times.

M. Joulin, in his *Traité complet des accouchements,* quoted in Duncan's *Researches in Obstetrics,* says: "The most remarkable and the most inexplicable phenomenon which the uterus presents is the change of place by which it leaves the excavation of the pelvis and mounts into the abdominal cavity against all the laws of physics and without any anatomical reason to explain its ascending movement.

"The uterus in its unimpregnated state is found entirely confined in the pelvic excavation. Under the influence of pregnancy it increases in weight and volume, but, nevertheless, it rises in spite of the pressure of the intestines, the action of the diaphragm, and the resistance of the abdominal wall. . . . It rises in spite of the laws of gravity, repels the intestinal mass and diaphragm, distends the abdominal wall, and at last is found situated above the superior strait.

"By what forces does it create a point of support? What is the lever which causes its mass to rise?

"I have in vain interrogated the textures which surround the organ. I have not been able there to find a satisfactory answer to the question.

"Nevertheless it is possible that the horizontal decubitus maintained during sleep favors the action of the *unknown force* which produces the change of place."

Dr. Duncan's answer to M. Joulin's query was that the uterine ascent was due to the "retentivity" of the abdomen, which gradually drew the uterus up from the pelvic cavity. As a proof of the action of this force or power, he referred to the reascent of the uterus after delivery.

"Delivery completed," he wrote, "the contracted uterus, weighing two pounds, is left partly within the pelvic cavity and partly projecting above it. In a few hours this weighty mass rises out of the pelvis and occupies a large part of the abdomen below the umbilicus. It has ascended against the gravitation of its own weight, against the resistance of the superincumbent bowels and the anterior abdominal flap, perhaps also against the influence of a tight bandage.

"Were there no such force as 'abdominal retentivity' it would be impossible to explain this phenomenon."

Dr. Duncan accurately described a condition, but failed to perceive that the force which produced that condition, the retentive power of the abdomen, was identical with M. Joulin's "unknown force," and that it was nothing more than atmospheric pressure.

Many will be inclined to doubt that atmospheric pressure plays such an important part in the mechanism of labor, but when they remember that the functions of every other organ of the body are performed by the direct aid of air, it is to be hoped that they will hesitate before denying to the uterus the privilege of utilizing this potent force.

I am much indebted to Dr. W. Reynolds Wilson, Dr. O. H. Hopkinson, and Dr. G. M. Boyd, visiting physicians to the Philadelphia Lying-in Charity, and to Dr. B. C. Hirst, director of the Maternity Hospital, for many kindnesses extended to me while engaged in investigating this subject, and also to Dr. Anna M. Hand, resident physician at the Philadelphia Lying-in Charity, and to Dr. Lida Stewart, resident physician at the Maternity Hospital, for their cordial co-operation.

Peter McCahey, M. D.

Hoboken, N. J., *June 21, 1891.*

To the Editor of the New York Medical Journal:

Sir: I do not wish to argue the question with Dr. McCahey what progress in obstetrics means; if it is identical with a regilding of old inventions to bring them out in a slightly changed shape—just for the sake of a change—after these inventions have been fairly tried and found wanting, then I am against progress.

I confess it is new to me that atmospheric resistance is one of the forces that retard delivery; I thought that the column of air pressing on the abdominal walls equalized itself with the column of air pressing against the fœtus through the vagina.

I further confess that it is new to me that the expulsion of the child in labor is the result of the "outward expansion of the intra-uterine air" when compressed by the abdominal muscles.

Granted that there is an appreciable amount of air incarcerated in the uterine cavity before delivery, then there are two things possible—either it does not make any difference at all whether the abdominal muscles press directly on the fœtus, or indirectly through a column of air, or by first compressing the air, the force of the pressure on the fœtus is lessened through the elasticity of the air itself. I further confess that I did not know that the imaginary force mentioned by Dr. McCahey was the only cause of rupture of the uterine body, the cervix, the perinæum, etc. I had always heard that the size of the fœtus and that of the maternal parts had something to do with it.

Allow me, before I close, to make a suggestion to show to Dr. McCahey that I am not against all progress in obstetrics. Why not try to inclose the parturient woman, from her hips down, in a chamber out of which the air can be pumped up to the vacuum? The column of air pressing on the abdomen would then try to expel the fœtus *per vaginam*, the air could be pumped out of the chamber *ad libitum*, and, obeying the wish of the accoucheur, the fœtus would march out of the vagina in *andante*, *presto*, or *prestissimo*, in even proportion with the scarcity of air in the vacuum chamber.

A. W. Herzog, M. D.

Proceedings of Societies.

HARLEM MEDICAL ASSOCIATION.

Meeting of March 4, 1891.

Dr. E. Fridenberg in the Chair.

(*Dr. Arthur H. Leary, Secretary.*)

Fractures at the Elbow Joint.—Dr. T. H. Manley read a paper on this subject. (See page 740.)

Dr. Charles A. Powers said that fractures at the elbow joint had been of special interest to him for the past eight years. He felt that the opinion which he held on this subject would differ from that expressed by Dr. Manley. This was not the result of reading authorities, but was based on personal experience. When he entered the Chambers Street Hospital in 1883 the practice in the treatment of these fractures was like that advocated by Dr. Manley in his paper—viz., immobilization of the joint and early passive motion. It was almost invariable that a stiff joint resulted after such early passive motion. He had then undertaken to keep the joint perfectly quiet until healing was accomplished, and had had far more satisfactory results. In the summer of 1888 he had read a paper before the surgical division of the Academy of Medicine, and had reported fifty cases of fracture at the lower end of the humerus all treated without early passive motion and with good results. Since then he had observed thirty additional cases and his results had confirmed his former convictions. Contrary to the teaching of the books, it had been his experience that the external condyle was more often fractured than the internal, and this might be accounted for because a child, when falling and striking the hand, would receive the force, transmitted through the radius, directly on the external condyle. It was of very little importance in the treatment just how the force was applied in a given case of fracture. The actual condition must be recognized and treated accordingly. He said that he must differ with Dr. Manley when he said it was impossible to make a correct diagnosis in a large number of cases. We must subject the bone to the most patient and careful manipulation. In dispensary practice he did not use an anæsthetic, but in private practice he was in the habit of employing nitrous oxide when necessary to make a diagnosis. The humerus should be grasped firmly just above the joint and then the fingers should be sunk gently down through the swollen soft parts until the internal condyle and then the external condyle were felt. These should be rocked backward and forward to elicit crepitus. Then attention should be turned to the head of the radius, but this was seldom fractured. He had seen two cases only. The position and condition of the olecranon must also be observed, as this very frequently was the seat of fracture. It was best to make a diagnosis of fracture the first time a patient was seen, even if a consultation was necessary. Three months ago the speaker had seen a girl, eight years old, who had had a fracture at the external condyle. The deformity had not been great and the soft parts had not been extensively lacerated. The forearm had been placed a little beyond a right angle and a plaster splint employed from the wrist to the upper part of the humerus. Care had been used to have this not tight nor, indeed, loose, but in such a condition as experience only could determine. There had been no pain or disturbance and the hand did not swell. The splint had been removed in seven days and the condition noted as good. Another splint had been applied and left on four weeks and a half. There had been solid union and considerable motion, the range being about 40°; the forearm could be extended to about 135°. The child's mother had then been directed to fasten the unfractured arm to the patient beneath the clothing each morning, thus compelling the fractured arm to be continually in use. In four weeks the motion had been perfect and there was but a very little thickening about the fractured joint.

Recently a child, four years old, had presented itself to the speaker with a refracture at the internal condyle. In seventy-five fractures of all kinds at the elbow joint, he had met with but one case of complete ankylosis; that had been in a man who had had a very extensive comminuted fracture, the joint feeling like a bag of beans. The result had been far better than could be expected. There were only a few cases of stiff joint. Fifteen per cent. of cases treated were in adults. Was there any reason why we should exercise passive motion? Would we resort to this practice in synovitis or other like conditions in other parts of the body? There was every reason why we should not do so. Still, he believed it best to warn the parents of patients suffering from fractures at the elbow that there was a danger of a stiff joint in order to prepare them should that condition follow treatment. He now took care of these cases with a fair expectation of a good result. He had tried extension in two or three instances, but had not been satisfied with the results. In fractures of the olecranon the arm must be extended and the olecranon kept in position by rubber adhesive strips and the plaster of Paris applied.

Dr. T. J. McGillicuddy spoke on the subject of fractures at the elbow joint from the standpoint of a general practitioner and not as a specialist. He had seen a number of cases of simple fracture and only two cases of compound fracture in this situation; the results had all been good. He believed the plaster of Paris to be the best material to use for splints. One patient, a woman, had worn such a splint when her elbow was fractured, and, desiring to attend a reception, had succeeded in drawing on a long glove so that the deformity was unperceived. It had seemed to him that the partially extended position was the best to have the forearm in, because it was much easier for the patient to exercise flexion than extension after the splint was removed. One of the cases of compound fracture which had come under his care had been produced by a policeman striking a woman on the elbow with his club. The case was of long standing and the joint ankylosed. The joint was opened, using the H incision, and a third to half an inch was sawed off of two bones. An almost perfect result had ensued, the woman being able to scrub and perform other household duties about the hospital. The other case had been in a man who had fallen down stairs, catching his arm in the baluster and sustaining a severe compound fracture. Resection had been resorted to and a very good result obtained.

Dr. Manley said that, notwithstanding Dr. Powers's unique experience, he had observed that he did not fail to warn the patients that there might be a stiff joint. We must remember that a fracture of any part of the skeleton would leave a weakness, to a more or less extent, in that point. In his own experience, if passive motion was delayed, in two or three weeks the joint was immovable and, a little later, ankylosis resulted. We were justified in treating more conservatively the severe fractures found in children than those that occurred in adults. Recently, since he had written his paper on this subject, he had seen a child whose elbow had been run over by a street car and fractured across the lower part of the humerus and also lengthwise through the joint. The fracture had been done up antiseptically, and, up to the present time, was doing very well. Another case, in an adult seen some years ago, had been a severe compound fracture sustained by his falling from a height in a church and striking his elbow on a pew. The ends of the protruding bones had been resected. The result had been very poor, as the forearm had been useless afterward. In these severely disorganized joints occurring in adults it seemed best to him to amputate at once. But in children the joint might be saved.

Book Notices.

Hypnotisme et croyances anciennes. Par le Dr. L. R. Regnier, ancien interne des hôpitaux, etc. Avec 46 figures et 4 planches. Paris: bureaux du *Progrès médical*, 1891.

This work is an erudite contribution to the solution of one of the vital questions of to-day and of yesterday as to the nature of that condition of the nervous system which can be produced artificially in a great number of individuals and whose characteristic is a state of complete or partial unconsciousness. That history repeats itself we all know, and yet that knowledge is far from blunting our eager desire to trace in the past the roots of our present knowledge under forms whose resemblance to those of to-day are but partially hidden by an ever-varying light. What study can possibly be more interesting than that of the soul, of its nature, of its dependence upon the body and upon extraneous influences? What delicacy of touch is required to determine the reason of its subjection to another's will, impressed either by a simple command, as now practiced, or by forms rendered irresistible by all the concomitants of superstition and magic, as in the far and near past!

Whether possessed by devils or hypnotized, the victims of the obsession offer always the painful, although interesting, spectacle of the flotsam and jetsam of the world's shipwrecked; now worshiped, then destroyed by the ever-superstitious people, alike ready to yield fealty or to revenge themselves for their too ready submission to the awe inspired by the incomprehensible exceptions to the iron law of Nature.

The reign of the marvelous and of the mysterious is at an end; but the facts determined by Braid, and reproduced by Heidenhain, by Charcot, and by a number of other savants, have amply demonstrated that hypnotism is not a deception, but a phenomenon having a real physical basis. The cerebral modifications necessary for the production of hypnotic sleep are at first purely functional and generally temporary in their nature, but they are capable eventually of modifying the histological elements of the brain permanently, entailing apathy and mental degradation.

If we examine the nature of these functional disorders we find, by the means of the sphygmograph, that the hypnotic state is accompanied by a modification in the encephalic circulation, consisting apparently in a slowing of the capillary action.

This condition of affairs has been indirectly confirmed by Luys and Bacchi, in their examinations of the eyes in hypnotized subjects. In the cataleptic, and in a lesser degree in the somnambulistic, state, a highly injected condition of the papilla was found, accompanied by a dilatation of the blood-vessels, indicative of cerebral congestion.

This congestion would explain to a certain extent the morbid cerebral activity of hypnotized subjects, together with the acuity of their perceptions and sensations and the exaggerated rapidity of their sensitive, motor, and intellectual reflexes.

Les virus. Par le Dr. S. Arloing, correspondant de l'Institut, directeur de l'École vétérinaire, professeur à la Faculté de médecine de Lyon. Avec 47 figures dans le texte. Paris: F. Alcan, 1891. Pp. 380.

This book demonstrates not only the possibility of the culture of microbes, but also to what extent that of the human intelligence can be carried. Proof and counterproof of the efficacy of various agencies to produce disease are given with mathematical precision. Animal susceptibilities aid in explaining human ones, and even by such apparently far-fetched studies as those of the diseases affecting the silkworm we are enabled to formulate laws governing the transmission of disease from generation to generation and those governing the extinction of families by the natural retrogression consecutive to weakened vitality.

The biology of the microbe lies before us, and from it we learn its dependence upon the soil from which it springs and with what force it is endowed that it may suitably enter the lists against its enemies, of which the most powerful doubtless is the so-called phagocyte. We follow it as it works its way painfully along from tissue to tissue, sustaining frequent defeat, losing many comrades on the way. We find it causing much havoc before finally finding refuge in either liver, spleen, kidneys, or other strongholds, from which it ejects dangerous and poisonous missiles into the neighboring territory to effect its destruction, while causing a more or less successful revolt of the more distant regions. Other forces join the microbe in its work of devastation—cold, famine, lack of fuel, or athrepsia, the sapping of energy by past disaster, the cumbering of the field by the slain—all combine to overcome the resistance of the organism to be vanquished, whose life is finally extinguished after much vain struggling.

The Modern Antipyretics; their Action in Health and Disease. By Isaac Ott, Ex-fellow in Biology, Johns Hopkins University, etc. Easton, Pa.: E. D. Vogel, 1891. Pp. 52.

The arrangement of this valuable little treatise is a logical sequence of the author's justifiable belief that it is necessary to know what antipyretics are chemically and how they act physiologically before determining their general therapeutic activity, their toxicological effects, and the differences between them. From a series of accurately tested researches he concludes that the various antithermics examined by him are beneficial in quieting the nervous system in hyperpyrexia, but not necessarily by reduction of the pyrexia; for, even if extreme measures are adopted, as in the thallinization of Ehrlich, it does not appear that the duration of the fever is shortened a day, or the mortality decreased, although the temperature is kept almost normal. This can readily be understood if we accept the current belief concerning the definite cyclic evolution of the fever-occasioning bacteria whose life can not be curtailed by one minute by any antithermic treatment or menaced by any high or subnormal bodily temperature.

Practical Notes on Urinary Analysis. By William B. Canfield, A. M., M. D., Chief of the Chest Clinic and Lecturer on Clinical Medicine, University of Maryland, etc. Detroit: G. S. Davis, 1891.

This little book, a number of the Physician's Leisure Library series, makes no pretense at being a technical treatise upon urinary analysis. It is intended for busy general practitioners, especially those unaccustomed to making such analyses. It covers most of the accepted urinary tests and describes them in a concise and attractive manner. The best feature of the work is in the tables showing what diseases the various alterations of the urine may indicate. These are well worth attention from those most familiar with the technique of urinary analysis. Had the proof-reader been a little more careful the author would have been shielded from some errors.

Reports on the Progress of Medicine.

OBSTETRICS.

By ANDREW F. CURRIER, M. D.

Incision of the Os Uteri during Parturition.—Guéniot (*Jour. de méd.*, March 22, 1891) says that after one has tried various other means for overcoming rigidity of the os without success, one may be forced to have recourse to incisions, and he advises the following method in case incisions are decided upon: 1. Rigorous antisepsis. 2. The use of long and strong scissors, or in certain cases of a blunt-pointed bistoury. 3. The directing of the instrument with two or more of the fingers. 4. The pressure of the fingers within the uterus upon the uterine tissue in such a way that bridges or prominences will be thrown out which can be readily cut. 5. The multiplication of these incisions superficially in preference to diminution of their number with increased depth. 6. In cases in which it is advisable to limit the number of incisions to two or three, it is better to make them in the transverse diameter of the neck and so avoid wounding neighboring organs.

Parturition in a Primipara without the Knowledge of the Parturient.—Brunon (*Jour. de méd.*, April 19, 1891) reports a case which is important from a medico-legal point of view. It concerned a primipara, twenty-two years of age, who at the termination of pregnancy was seized with quite severe lumbar pains one evening at nine o'clock, though the pains were not so severe that she or any one in her household thought of summoning a physician. At eleven o'clock she had a desire for an evacuation of the bowels, which kept her sitting in the water-closet about an hour. After that time the lumbar pains diminished. At half past one the lumbar pains reappeared with increased severity, with a feeling of heaviness in the ischiadic region, and a renewal of the desire to defecate. At this moment the patient endeavored to bring her thighs together, but was prevented by an obstruction which, upon examination, was found to be the head of her infant protruding from the vulva. At no time had the question of parturition occurred to her, and her first intimation as to what was going on was when she touched and saw the child's head between her thighs. The patient was a woman of calm temperament and good health and belonging to the cultivated class. There was nothing in her antecedents that would have any bearing upon this nearly painless labor. There was no abdominal colic at any time, there were no terminal expulsive pains, which are usually so severe; in fact, the only evidences of the process of parturition were the lumbar pains, the feeling of weight in the rectum, and the illusory desire to defecate. She stated that she might have given birth to her child in the water-closet had her friends not summoned her out after she had been in there some time. As to the medico-legal bearing of such cases, an inexperienced woman who did not realize what was going on might mistake the pains accompanying the dilatation of the uterus for a desire to evacuate the bowels, and under these circumstances a child might be born and fall into a privy without the least intention of infanticide on the part of the mother.

The Different Anæsthetic Agents used in Natural Labor.—Chaigneau (*Jour. de méd.*, April 19, 1891) has made a comparative study of all the anæsthetic agents which have been employed or experimented with in parturition. These agents are numerous, but those that have been used with advantage are chloroform, chloral, antipyrine, and cocaine. As yet antipyrine has only given moderate results. Chloral, which has certain advantages, has the disadvantage that it must be taken in large doses to be of much value, and then is apt to irritate the stomach and intestines. Chloroform presents so many advantages that it is surprising that it is not used more frequently. It has no particular action upon delivery, upon the production of post-partum hæmorrhage, or upon the occurrences which usually follow labor. It is indicated in all cases in which the pains are severe, cases in which there are irregular contractions of the uterus, spasmodic contraction and rigidity of the cervix, great resistance of the perinæum, and badly tolerated uterine pains. The only contra-indication to chloroform is chlorosis with a tendency to syncope. Acute or chronic affections of the lungs and disease of the heart, kidneys, or nervous system ought not to be an objection to the use of chloroform to a prudent physician. Cocaine has only recently been used in obstetrics, but it may prove of service in diminishing the pain at the time the head is traversing the vulvo-vaginal canal. Jeannel asserts that he has had good results with a five-per-cent. solution which he has applied on cotton to the cervix, the vaginal *culs-de-sac*, and the walls of the vagina. The tampon is allowed to remain a few minutes and is then replaced by another, and this in turn by a third. Doléris has used a four-per-cent. ointment of cocaine upon the cervix with advantage. Auvard and Secheyron have injected fifteen to twenty minims of a five-per-cent. solution into each labium majus a few minutes before delivery, and it resulted in the complete suppression of the severe pain usually observed at that stage.

Retention of the Dead Fœtus in the Uterine Cavity.—Lutaud (*Jour. de méd.*, Dec. 21, 1890) thinks that this accident is by no means a rare one. Nature sometimes comes promptly to the relief, and the dead fœtus is spontaneously expelled, but this is not always the result. The phenomena accompanying retention vary with the age at which death occurs. If it occurs within the first two or three months of intra-uterine life, it will quickly be followed by solution and absorption. The amniotic fluid becomes thick and perhaps milky, and when the ovum is discharged no traces of the fœtus will be apparent. During the second period of intra-uterine life the dead fœtus undergoes atrophy, mummification, or desiccation, turning gray or yellow in color. The amniotic fluid becomes thickened and then disappears, leaving a kind of sediment upon the surface of the fœtus. Maceration is the condition which almost always results if death is delayed until after the fifth month, the tissues becoming softened under the influence of heat and moisture. Decomposition is slow and progresses without the production of gas, odor, or cadaveric discoloration, unless the membranes have ruptured and there is a communication with the atmosphere. In the latter case the ordinary evidences of putrefaction are present, including gaseous distention of the uterus. With regard to the maternal organism, no harm is experienced if the membranes remain intact, no matter how long the ovum may be retained. The mother experiences a cessation of the sympathetic phenomena of pregnancy; the breasts become smaller and the belly is less distended. Palpation of the abdomen, in cases in which the fœtus has died early in pregnancy, gives results which are not always definite. There may be the greatest difficulty in appreciating the form and contents of the uterus, or it may be hard and well contracted, favoring expulsion of its contents, or again it may be soft and elastic, contracting readily under the hand. Auscultation will yield only negative results. Should the fœtus die during the second half of pregnancy, palpation will reveal not only the form of the uterus, but also facts relating to the condition of the fœtus. In the first few days after the death of the fœtus not many changes are apparent. There is an absence of motion, and gradually it becomes possible to outline the fœtal portions; the head soon loses its distinctive characteristics, and bony crepitation may be produced as one cranial bone is pressed against another. Should the ovum be ruptured, putrefaction of the fœtus will quickly result from the action of the germs which are present. Soon the maternal organism will present phenomena of sepsis, including chills and fever, while the discharges proceeding from the uterus will have a very offensive odor. The treatment will vary with the conditions which are presented. When the fœtus is dead, the membranes are intact, and labor has not begun, the treatment should be expectant, antiseptic irrigation of the vagina being practiced twice daily. When labor has begun, rigid antisepsis must be practiced and rupture of the membranes avoided if possible. If examinations are made, they should be made with unusual care and between the pains, hot vaginal or uterine douches being given if the labor is delayed. In case the placenta is retained, it should be removed by hand rather than with instruments. If the ovum is opened and labor has not begun, dilatation should be practiced and the uterus encouraged to empty itself as speedily as possible. If labor has begun, it should be accelerated as much as possible, vaginal or uterine douches being used, aided by dilatation if necessary.

Subcutaneous Injections of Caffeine in the Treatment of Puerperal Hæmorrhage.—Misrachi (*Jour. de méd.*, March 8, 1891) recommends this method of using caffeine for cases of post-partum hæmorrhage in which a rapid effect is required. It is of special advantage to the country practitioner, who may at the time be attending cases of infectious disease and whose hands may not be sufficiently disinfected to justify a digital examination of the genital organs of the parturient patient. The author states that caffeine will act more rapidly than ergot and more efficiently than ether, though the latter is more rapid in its action as a stimulant. The caffeine should be administered in a solution containing a grain and a quarter of the substance, and this may be repeated if necessary until five grains have been used. A better solution may be obtained by dissolving the caffeine in warm water with benzoate of sodium. It is recommended that packages containing both these materials form a portion of the contents of the obstetrician's bag.

Excessive Disinfection of the External Genital Organs of Parturient Women.—Axmann (*Jour. de méd.*, March 8, 1891) says that it is not alone in England that opposition to the use of disinfectants exists, under the leadership of Tait and Bantock. Germany is also in rebellion. The author has been at the head of the Maternity at Erfurth for the past thirty years, and in commenting upon his experience during that period he places himself in accord with a considerable number of German accoucheurs who regret the mishaps that have arisen from the abuse of corrosive sublimate and carbolic acid in the treatment of parturient women. At the Erfurth Maternity a pregnant woman who is to be examined is first bathed and then receives a vaginal injection of water. Student midwives are not permitted to make examinations until they have familiarized themselves with such procedures by practice upon the manikin. Corrosive sublimate and carbolic acid are regarded as toxic agents too dangerous for use in inexperienced hands. The results of such careful training have been excellent. Of 1,187 gravid or parturient women who have served as means of instruction at this Maternity, only 46 have shown a temperature above the physiological level. The good results of this careful training are also seen in the practice of the midwives after they have left the Maternity.

Puerperal Infection and Antiseptics.—Hegar (*Jour. de méd.*, Feb. 15, 1891) has made an exhaustive investigation of the statistics of the grand duchy of Baden, to discover if possible the value of antiseptics as used in obstetric practice. He finds that during the last forty years the mortality among women during the three weeks following labor has not materially varied in that country. He observes that the obstetricians are divided into two parties, one of which believes in the doctrine of antisepsis and uses antiseptics in abundance, considering the internal surface of the vagina and the cervix uteri as an operative field which should be disinfected before parturition, the other attaching very little importance to self-infection and occupying itself in removing poisons actually present in or upon the genital organs. Adherents of the latter doctrine limit themselves to the strictly necessary introduction of fingers and instruments into the vaginal canal. In Hegar's opinion, the latter method is the preferable one. The statistics in question show that the use of antiseptics in obstetric practice has not diminished the mortality from infection in women attended by midwives, and the number so attended is far greater than the number attended by physicians. The use of antiseptics requires the introduction into the genital passage of instruments which are too often the media for the transmission of pathogenic organisms. It would seem that a step in the right direction would be the requirement that midwives abstain from making injections and vaginal examinations in cases in which the parturition is proceeding normally. Careful observation of the pulse, the temperature, the respiration, the frequency of the uterine contractions, and the practice of external palpation if necessary, should give a midwife sufficient information as to the necessity of calling in a physician to her assistance. The latter is a point of great importance, and instruction in this direction should be more systematic and thorough than has been the custom heretofore.

Carcinoma of the Cervix complicating Pregnancy.—Löhlein (*Gaz. méd.*, March 21, 1891) gives the case of a patient, forty-three years of age, who had had four normal parturitions, the last one being eight years previous to the time of her admission to the hospital at Giessen. She was, when admitted, within three or four weeks of the end of pregnancy. At the fourth month there had been a slight hæmorrhage and another eight days before her admission, which had been profuse and continuous. A carcinomatous mass occupied the posterior portion of the cervix. Dilatation of the cervix occurred in due season, the child was extracted with forceps, and the placenta followed without severe bleeding. Subsequently disinfecting douches were used at proper intervals with solutions of creolin and creasote. Ergot and ergotine were also given, but at the beginning of the third week the uterus was still very large and it was decided to remove it. This was done on the eighteenth day after the confinement, and the patient recovered without mishap. This case shows that uterine cancer complicating pregnancy does not necessarily prevent labor at term by the natural channel, the disease being limited to the cervix.

Five Cases of Ectopic Pregnancy.—Foerster (*Med. Monatsschrift*, November, 1890) remarks that, notwithstanding the many contributions to this subject in recent times, there are still many things regarding it that are obscure. Especially is this true in regard to its ætiology. Even those who have had most experience with this condition are still in the dark in regard to important particulars. There are many cases that are so complicated by peritoneal adhesions that they present the greatest difficulties or are quite unsuitable for operation. The author agrees with those who believe that prior to rupture this condition is almost impossible of diagnosis. His experience includes five cases which have been seen within the past two years. Four of the patients were operated upon—two with a successful and two with a fatal result. The fifth patient died of hæmorrhage, no operation having been attempted. The pains, which resemble labor pains in these cases, are regarded as an important factor in establishing the diagnosis. The atypical hæmorrhages from the uterus should also excite suspicion of this condition, as has been observed by many authors. Other important diagnostic factors are the enlargement of the uterus, its mobility, the sense of its emptiness when the sound is passed, and the activity of the mammary glands; also the anæmic condition of the patient, which is usually present. As to the operation in such cases, it should be performed as rapidly as possible, and it is doubtless well to leave a large quantity of hot water in the abdominal cavity to be absorbed, and thus take the place of the blood which has been lost.

GYNÆCOLOGY.

By HIRAM N. VINEBERG, M. D.

Pathological Changes in the Fallopian Tubes in Fibro-myomas of the Uterus.—Popoff (*Gaz. du gynécologie*, March 15, 1891, and *Deut. med. Ztg.*, 1890, Nos. 49–51) has made a study of this as yet undeveloped subject. He examined thirteen tubes taken from seven operations for the removal of the annexa for fibro-myoma of the uterus. Of these, five showed no change whatever, four were in a state of catarrhal inflammation, two showed hyperæmia, one presented a hæmatosalpinx, and one had undergone an interstitial fibroid change. In some of the cases the tubes were filled with a serous or sero-sanguineous fluid, and their external orifice was obliterated. The changes in the tubes, therefore, may play a rôle among the numerous causes of sterility in women the subjects of uterine fibroids.

Endometritis during the Course of Acute Infectious Diseases.—Massen (*ibid.*) has investigated eighteen cases of infectious diseases in reference to the condition of the endometrium. They comprised three of pneumonia, eleven of recurrent typhus, two of typhoid fever, one of dysentery, and one of peritonitis from an unknown cause.

As a result of his investigations, it may be stated that all of the component structures of the endometrium presented pathological changes. The blood-vessels were intensely injected, especially the small veins and capillaries, and presented ecchymoses, either in patches or disseminated all over the surface of the mucous membrane. The epithelia of the glands were in a state of tumefaction, the cells were desquamated, and the lumina of the glands were filled with cells, mucus, and blood-corpuscles. Frequently the glands penetrated deeply into the muscular layer—a characteristic sign of endometritis, as shown by Cornil. The stroma of the mucous membrane showed in most cases a diffuse granular infiltration. There was, therefore, in all the cases a hæmorrhagic endometritis, confirming the observations of Slaviansky made in cases of cholera. The author emphasizes the rôle the infectious diseases play as ætiological factors in endometritis, particularly in women who have not passed the period of sexual activity.

A Rare Complication of Fibro-myoma of the Uterus.—Dr. Winter (*Ctrlbl. für Gyn.*, 1891, No. 1) has presented to the Berlin Gynæcological Society a very interesting case. The patient had an interstitial myoma about the size of an adult's head. There was a perforation of the uterus at the point where the cavity was flexed sharply forward. On curetting the uterus, the curette passed through this opening into the subserous tissue of the posterior wall ef the uterus, peeling off the peritonæum and penetrating one of the larger veins. Two hours later the patient was exsanguinated, and, as she was in a dangerous condition, laparotomy was done. The abdomen was found filled with coagulated and fluid blood. On the posterior wall of the myoma, near the internal os, was found a rent two inches long, with marked degenerated borders, and this was still bleeding. The growth and uterus were amputated, and the patient recovered in spite of several embolic infarcts in the lungs.

Gynæcological Examinations in Trendelenburg's Posture.—Dr. v. Stroynowski (*Ctrlbl. für Gyn.*, 1891, No. 2) makes a plea for what is known in surgery as Tredelenburg's posture, with elevation of the pelvis, in examinations of obscure affections of the pelvic contents. He cites a case in which this posture was of great service to him. The case was one in which there was a considerable quantity of fluid in the abdomen. The position of the uterus and annexa could not be ascertained by the usual bimanual method with the patient in the horizontal posture, but when she was placed in Tredelenburg's posture the fluid gravitated to the most dependent part of the abdomen, and the contents of the pelvis were easily palpated. The author thinks this posture can easily be attained at the patient's home as well as in the physician's office, and that it should become popular.

[There has been a healthy tendency of late to place the diagnosis of gynæcological affections on an accurate and scientific basis. It is a notorious fact that in this country, which may lay claim to the birth of gynæcology, accuracy and precision in diagnosis are desiderata which do not receive sufficient weight. The maxim, "If you are in doubt open the abdomen and find out," may in a measure account for the prevailing looseness in diagnosis. But we venture to state that the near future will see a marked reaction in this regard. More attention will be bestowed on careful examinations in different postures, and a resort to anæsthesia in difficult and obscure cases will be more common here than it is at the present day.]

The Swedish Movements in Gynæcology.—Professor F. von Preuschen (*Berlin. klin. Woch.*, 1891, No. 5) makes use of this title for his paper, inasmuch as the cases reported in it, which were presented before the Greifswald Medical Society, were treated by the Swedish movements only, and not by the special massage originated by Brandt and known as Brandt's method. The author was among the first to introduce Brandt's method into Germany, and is a firm believer in its efficiency, but the object of the present paper is to show what may be accomplished by general manipulations which may be carried out by the patient's relatives. These movements originated with Professor Ling, of Stockholm, but have been modified and added to by Brandt, and may be divided into those which have for their object a determining of blood to the pelvic organs and those which have a derivative effect upon the same. One illustrative case of each affection treated was shown to the society and its history briefly narrated. The first case was one of dysmenorrhœa of long standing which had resisted all kinds of treatment. Brandt's gymnastic movements for determining blood to the uterus and annexa were carried out and a perfect cure was accomplished. Nine other cases of a similar nature were treated in the same way and with like gratifying results. The author thinks that these results are a justification of Schultze's theory regarding the pathology of dysmenorrhœa—that the pain is not due to stenosis but to metritis, the inflamed muscular tissue being pressed upon by the distended blood-vessels.

The next case was one of profuse menorrhagia and metrorrhagia due to a fibro-myoma. The movements for determining blood from the pelvis were carried out, and the result was surprising as well as gratifying. The menses became regular and lasted for only four days, instead of twelve and fourteen, as before. Four other cases under the same treatment were followed with equally good results.

The third case was one of total prolapsus of ten years' duration, which underwent a perfect cure. Two years afterward the uterus was found in normal position, although the patient had engaged in hard work and took no care of herself. Seven other patients were subjected to the same course, and all at the end of a year had no return of the displacement. The author promises in the near future another paper embodying his results in cases of deviations of the uterus and of chronic parametritis and perimetritis.

[The whole article is exceedingly suggestive, and leaves the impression of having been written in a moderate, dispassionate, and scientific manner. Should the author's results be confirmed by the observations of others, an immense field of usefulness will be opened up for the manual treatment of pelvic affections. It is the reviewer's present opinion that Brandt's general movements require for their execution the aid of a trained person, but it may be that he magnifies the difficulties to be encountered in putting them into practice. At any rate, the author's experience will encourage him to make trials in the future in the same direction.]

Observations on the Changes in Size and Consistence of the Female Pelvic Organs.—Lindblom (*Ctrlbl. für Gyn.*, No. 3, 1891), who employs pelvic massage extensively, has observed almost constantly during the séances changes in the pelvic organs, especially in the uteri.

In the most marked cases the uterus at the beginning of the séance is small, lax, and soft; it then increases in size, grows harder, and assumes a spherical form. These changes are noticed principally in the body and supravaginal cervix. The author attributes them to changes in the blood-supply of the organs and compares them to erections. The woman, however, experiences no sensations from these changes. The author has also observed that the swollen uterus just before the menstrual period diminishes in size as soon as the blood begins to flow and the uterus grows flaccid and soft, the decrease in size and flaccidity being in direct ratio to the abundance of the flow. The ovaries decrease in size also on the appearance of the menstrual discharge.

The Treatment of Acute Gonorrhœa in Women with the Constant Current.—Prochownik (*Ctrlbl. f. Gyn.*, 1891, No. 3, and *Med. Woch.*, 1890, No. 27), on the strength of Apostoli's and Laguerrière's investigations on the virtues of the positive pole as a destroyer of microbes, treated ten cases of gonorrhœa in the female with the constant current. In four cases of acute gonorrhœa a complete cure resulted; in two other cases, also of acute gonorrhœa, but in which chronic gonorrhœa with its sequelæ of chronic perimetritis, etc., had existed prior to the fresh attack, a marked improvement was obtained in one and a subjective improvement in the other.

The cure in these cases followed in a surprisingly short time; the gonococci were absent after the fourth application, and all the morbid phenomena disappeared after the ninth application. The positive pole was carried into the uterus and a current strength of 120 milliampères was used for from eight to ten minutes. The necessary precautions are cleansing of the vagina and vulva and the non-employment of any instruments. The electrode should be passed along the index finger in the vagina to the os and introduced into the uterus and carried to the fundus. The author made several attempts to treat gonorrhœa of the urethra in the same way, but the patients could not endure a current stronger than 30 or 40 milliampères, while a current strength of from 80 to 100 is essential.

The Treatment of Uterine Fibroids with Apostoli's Method.—N. Kjaergaard, Copenhagen (*ibid.*), has treated twenty cases and gives the history and results of treatment in detail. Two deaths occurred—one in a very weak patient, with a cardiac lesion and with a growth in the uterus the size of a child's head. There were very severe hæmorrhages which resisted all forms of treatment. She had had eight applications of positive intra-uterine galvanism, ranging in intensity from 40 to 140 milliampères, and had borne them well; she was then given negative intra-uterine applications, and after the third séance (185 milliampères) fever set in and on the eighth day she died from heart weakness (?). No autopsy.

In the second fatal case the patient suffered with chronic bronchitis, with dilated bronchi, and had a growth of about the size of a child's head. In this case the hæmorrhage was only temporarily arrested by positive intra-uterine applications. In the last séance the hæmorrhage following was so great as to necessitate an intra-uterine tampon. A hysterectomy was then done, but the patient died within twenty-four hours. In the uterine cavity was found a large venous opening of about the size of the radial artery. Presumably the copious hæmorrhages occurred from this opening.

In the remaining cases the results obtained were very good; the hæmorrhages were arrested or, at least, much diminished; the pains vanished, and the symptoms due to pressure decreased in a marked degree.

[The second death can not properly be attributed to the electricity, and it does not appear that the chances of recovery after the laparotomy were in any way jeopardized by the previous treatment. The first fatal case is very instructive in that it directs our attention to the possible dangers of using very strong currents in patients with a grave cardiac lesion.]

Miscellany.

Typhoid Organisms.—At a meeting of the Section in Pathology of the Royal Academy of Medicine in Ireland, Dr. MacWeeney read a paper on this subject, and exhibited pure cultures on gelatin and agar-agar—the former obtained by von Esmarch's "roll-tube" method—from the spleen and enlarged mesenteric glands of a patient who had succumbed at an early stage of the fever, under the care of Dr. Nixon, in the Mater Misericordiæ Hospital, Dublin. He stated that it was his object not to produce a piece of special pleading on behalf of the bacillary ætiology of typhoid, but simply to lay before the Academy as clearly and succinctly as might be the present state of modern science on the subject. In order to do so he had been obliged to wade through a chaotic mass of recent literature, chiefly in German. There were very few points in bacteriology about which there prevailed such direct difference of opinion among distinguished authorities as about certain problems in connection with the typhus bacillus.

Dr. MacWeeney said he proposed first to give a few historical details regarding the development of the bacillary doctrine for typhoid, and alluded to Eberth's researches, which (1880) were the first to throw any clear light on the subject. His methods and discoveries were described, and then Goffky's in 1884–'86. The cultivational appearances first described by the latter observer were gone into and illustrated from the specimens laid before the Academy that evening. Dr. MacWeeney expressed his regret at not being able to produce a potato cultivation on that occasion. The one he had prepared had unfortunately become contaminated with mold, while the new ones were not sufficiently advanced. Owing to the biological questions concerning the bacillus, Dr. MacWeeney mentioned the various views of Goffky and Birch-Hirschfeld, who considered that it formed spores, while Buchner and Ali Cohen were of opinion that the supposed spore-bearing condition depended upon involution-processes, or degenerative changes. The final point discussed was the pathogenity of the bacillus. Was it really the cause of typhoid? As methods of research were gradually improved the bacillus was more and more constantly found forming familiar isolated colonies in mesenteric glands, spleen, liver, and sometimes in the kidneys of patients suffering from typhoid. Ali Cohen's exhaustive researches had shown that, while present in every case of the disease, it was invariably absent in all other infectious cases examined—*e. g.*, several of typhus. The real difficulty in making its cause and effect a matter of absolute certainty was the impossibility of inoculating animals with typhoid. They appeared to be insusceptible of acquiring the disease. Chantemesse and Widal asserted that they had communicated the disease to mice and rabbits; their experiments were, however, invalidated by the totally opposite results arrived at by quite a series of observers (Goffky, Fränkel and Simmonds, Beumer and Piper, Ali Cohen, *et al.*), who had found that the bacilli, whether inoculated subcutaneously or injected into the alimentary canal of lower animals, did not multiply but rapidly disappeared, and that the injurious effects observed were due not to an infective process, but to an intoxication with poisonous metabolic products (probably triamines) generated by the bacillus during its growth on artificial nutrient substrata. The results of Brieger's and De Blase's researches on these toxines were then given, and the paper concluded with a critical account of the various announcements lately made concerning the discovery of the bacillus in earth, drinking-water, river-water, milk, etc., and their bearing on such questions as the origin of epidemics, etc. In addition to the cultures (which had been made in the bacteriological laboratory at the Mater Misericordiæ Hospital), microscopic slides of the bacilli, both in pure cultivation and in tissue (mesenteric gland), were exhibited.

Obstetrical and Editorial Homologies.—In his lecture before the American Academy of Medicine, says the *Medical News*, Professor Parvin most deftly hit off certain aspects of the work of the editor of a medical periodical. It is rare that great learning and experience, both scientific and literary, are so happily joined with a touch so light and accurate; one almost fails to see the seriousness behind the banter and the smile. *Inter alia* he said:

"No man should attempt the duties of a medical editor unless he is a good obstetrician, especially as it relates to the diagnosis of pregnancy and the care of premature and feeble infants. Let me remind you that Socrates, in Plato's *Theætetus*, states that he is the son of Phanærete, a brave and burly midwife; that he practiced midwifery; that he attended men and not women; that he practiced on their souls when they were in labor; and, lastly, that his art had its triumph in thoroughly examining if the thought which the mind brought forth was a false idol or a true birth.

"Let me press the analogy a little further: The medical editor ought not only to differentiate between true and false pregnancy, but he should also be able to tell whether gestation has reached the normal term. Unfortunately, errors in diagnosis are very frequent. Pseudocyesis is not uncommon; tympanitic distention may be mistaken for pregnancy, and when the delivery takes place it is simply expulsion and explosion of gas. True brain-babies may be born, but they are too feeble to live unless carefully cared for in an incubator by the editor; an article prematurely reporting a case alleged to be cured by an operation may be kept by the editor until the cure is established; it may be written in execrable English, but the wise editor will put good clothes on the child before permitting it to appear in public. I am sure that we all meet every few weeks with papers appearing in reputable though probably not the best medical journals, to which the criticism just made can be justly applied.

"I am sorry to say that medical editors are sometimes ignorant of the characteristics of a child born at term; they fail to recognize the average weight such a child should have, the degree of development and activity it should manifest, and consequently present their readers with imperfect specimens of medical reproduction.

"It occasionally happens that a doctor without any reproductive power, or endeavoring to produce offspring every few weeks, when his pregnancy ought to last several months, is compelled to evolve from his inner consciousness, without any conception having occurred, that which passes for a baby with some, but is purely artificial. Laying aside metaphor, cases which never occurred are sometimes reported in medical journals; some keen and experienced eye will discover the ham, while many suspect that the story is pure fiction. May the days come when all medical editors will be wise enough and brave enough to exclude from their literary museums all artificial curiosities.

"The medical editor may be engaged in procuring abortion. Thus there is a case of true pregnancy, but gestation has by no means reached its term; the editor with few contributors, and printers clamorous for copy, extorts from this pregnant doctor the promise of an article long before he can properly prepare it; it may be a fee, or friendship, or promise of influence, or something of like sort which is the abortifacient, but it does the work."

Medical Nomenclature and the "Spirit of the Language."—The *British Medical Journal* for May 30th contains the following: Ethical and æsthetic considerations greatly influence nomenclature. This truth is recognized at the medical schools; indeed there is a legend, founded on truth, that a certain examiner at the College of Surgeons used to pluck every candidate who talked about "Steno's duct" or "Wharton's duct." Men who begin by using such terms, this surgeon of the old type argued, would end by calling new diseases after their own names. At present the French are foremost in the crusade against the latter practice. A terrible catalogue of diseases named after men has gone the round of the French papers. This catalogue shows that the neurologists are the greatest sinners. By a strange irony, the name of one of the best masters of pure English among living surgeons, a writer who especially objects to the practice in question, has been applied to two utterly different maladies, one affecting the bones, the other attacking the nipple. On the other hand, the Americans and Germans are more especially concerned about harmonizing medical literature with the "spirit of the language" and the "genius of the language." Grammarians warn us against expressions of this kind, yet they indicate truths. Thus, in English, a word does not look well if it begins with "vr" or "sr," as in some Eastern languages, or ends in "tl," as in many Mexican words. Diphthongs, in the opinion of many writers, give a pedantic look to English words. The opinion prevails very strongly in America. Indeed, "hemorrhage" and "fetus" look quite natural in a New York or Boston paper. Scholars are divided as to how far a writer of English is justified in converting "æ" into "e." There are reasons for believing that "æ" is represented by the French "é," German "ä," and English "a" in "day." The Americans, however, are probably justified in completing the Anglicizing of Græco-Latin technical terms. English, unlike German, has much of the Latin element in its composition. Hence certain terms have undergone a wholesome philological digestion. Germans can not claim a similar advantage. In German scientific literature, therefore, Greek and Latin words, raw and unmodified, are jumbled up with long, clumsy, native compound terms, assimilation being impossible. A further inconvenience is the question of gender. In French there is some trouble and many anomalies, as "le vagin," which is masculine; though "gaine" (sheath), the true form in French of the original Latin word, is correctly made feminine. The presence of a useless neuter in German greatly increases the difficulties of assimilating foreign words. A German literary paper has recently published an article entitled Die Tiber oder der Tiber? Dr. Kocks, in the *Centralblatt für Gynäkologie*, insists that the gender of foreign words must depend, not on their original source, but on the "Geist der deutschen Sprache." So the Teuton must say "die Massage," "der Cervix," "der Forceps," and "das Fieber." So, again, the Briton and the American must, like Mark Twain, regret the absence of "one good square responsible sex," and be cautious about "der," "die," "das," before technical terms, when speaking to a German medical man in his own tongue. Nevertheless, the Germans are in the right in questions relating to their own tongue; technical names must follow a general law, in English as in German, a law thus expressed by Horace, aptly quoted by Dr. Kocks: "*usus quem penes arbitrium est et jus et norma loquendi.*"

Advice from Japan.—"The following clipping from a Japanese exchange shows that with the adoption of Western medical methods in the empire the pitfalls of medical practice have not been entirely avoided: 'A woman, named Kin Mihashi, aet twenty, having been suffered from the uterine disease, consulted of a physician at *Yokohama*, who administered anæsthetic. While under the influence of the drug, as she stated that the Doctor conducted the immoral action, and appeared before the court yesterday. It is advisable for a young physician not to give anæsthetic without the presence of another professional man, especially in case of female, as the effect of the drug often gives such a peculiar strained sensation to the patient as some one insulted her immorally while under the influence of the drug.' "—*Boston Medical and Surgical Journal.*

Mortality in Cities in the United States.—The following table represents the mortality in the cities named, as reported to Dr. Walter Wyman, Surgeon-General of the Marine-Hospital Service, and published in the Abstract of Sanitary Reports for June 19th:

CITIES.	Week ending—	Population, U. S. Census of 1890.	Total deaths from all causes.	DEATHS FROM—										
				Phthisis pulmonalis.	Yellow fever.	Small-pox.	Varioloid.	Varicella.	Typhus fever.	Enteric fever.	Scarlet fever.	Diphtheria.	Measles.	Whooping-cough.
New York, N. Y.	June 13.	1,515,301	743	98	..	..	..	..	..	6	34	27	24	6
Chicago, Ill.	June 13.	1,099,850	404	43	..	..	..	..	..	40	6	9	5	2
Brooklyn, N. Y.	June 13.	806,343	335	37	..	..		..	..	2	12	14	6	2
St. Louis, Mo.	June 6.	451,770	....	15	..	.	..		..	1	..	3	2	3
Boston, Mass.	June 13.	448,477	172	29	..	..	..	..	..	..	1	3	..	....
Baltimore, Md.	June 13.	434,439	148	17	..	..	..	..	..	2	..	4	..	1
San Francisco, Cal.	June 6.	298,997	130	17	..	..	..	..	..	3	..	9	..	1
Cincinnati, Ohio	June 12.	296,908	....	9	..	..	..	..	..	5	2	3	2	....
Cleveland, Ohio	June 6.	261,343	84	9	..	..	..	..	..	1	1	5	..	....
Washington, D. C.	June 13.	230,392	89	10	..	..	..	..	..	2	..	4	..	1
Detroit, Mich.	June 13.	205,876	67	3	..	..	..	..	..	..	..	2	..	....
Minneapolis, Minn.	June 6.	164,738	40	....	..	..	..	..	..	2	2	3	..	....
Minneapolis, Minn.	June 13.	164,738	36	....	..	.	..	..	..	..	1	1	..	....
Rochester, N. Y.	June 13.	133,896	43	....	..	..	..	..	..	2	1	4	..	....
Kansas City, Mo.	June 6.	132,716	21	....	..	..	..	..	..	1	1	..	..	....
Providence, R. I.	June 13.	132,146	50	....	..	..	..	..	..	1	..	..	..	3
Indianapolis, Ind.	June 13.	105,436	46	4	..	..	..	..	..	..	..	2	3	....
Toledo, Ohio.	June 13.	81,434	23	1	..	..	..	..	..	..	..	2	..	....
Richmond, Va.	June 6.	81,388	54	3	..	..	..	..	..	1	..	..	2	....
Nashville, Tenn	June 13.	76,168	34	....	..	..	..	..	..	2	..	..	1	1
Fall River, Mass.	June 13.	74,398	29	3	..	..	..	..	..	..	..	1	1	....
Portland, Me.	June 13.	36,425	11	....	..	..	..	..	..	1	..	..	..	....
Binghamton, N. Y.	June 13.	35,005	15	5	.	..	..	..	..	..	..	..	..	....
Yonkers, N. Y.	June 13.	32,033	7	1	..	..	..	..	..	..	..	..	..	1
Mobile, Ala.	June 13.	31,076	17	4	..	..	..	..	..	..	..	..	..	....
Auburn, N. Y.	June 13	25,858	15	5	..	..	..	..	..	..	..	..	..	....
Newton, Mass.	May 16.	24,379	7	....	..	..	..	..	..	..	..	..	..	....
Newton, Mass.	May 23.	24,379	10	....	..	..	..		..	..	..	..	..	....
San Diego, Cal.	June 6.	16,159	1	....	..	..	..	..	..	..	..	..	..	....
Rock Island, Ill.	June 7.	13,634	4	....	..	..	..	..	..	..	..	..	..	....
Rock Island, Ill.	June 14.	13,634	3	....	..	..	..	..	..	..	..	..	..	....
Pensacola, Fla.	June 6.	11,750	5	....	..	..	..	..	..	..	..	..	..	....

The late Dr. Joseph Leidy.—The *British Medical Journal* says:

Dr. Joseph Leidy, one of the foremost representatives of biological science in the United States, passed away on April 30th, after a short illness. He was born in Philadelphia in 1823, and even as a school-boy showed an eager interest in the study of natural science and a remarkable talent for drawing, which in his subsequent career stood him in good stead. In 1840 he began the study of medicine, taking his M. D. degree in the University of Pennsylvania in 1844 with a thesis on the *Comparative Anatomy of the Eye of Vertebrated Animals.* Immediately after graduation he became assistant to Professor Hare, who at that time occupied the chair of chemistry, a position which, in 1845, he exchanged for what was probably the more congenial one of Prosector of Anatomy. In 1853 he succeeded Professor Horner in the chair of anatomy, which—with that of zoology and comparative anatomy, which was soon afterward joined to it—he continued to hold till his death.

Joseph Leidy was one of the first in America who used the microscope as an instrument of scientific research, and in 1848 he published his *Researches on the Comparative Structure of the Liver*, which established his reputation as a histologist. He gave much attention to the subject of parasites, and in 1853 published a beautifully illustrated monograph on the *Flora and Fauna within Living Animals.* He made a systematic investigation of the lowest forms of life found on the American continent, the results of which were given to the world in his well-known work *The Fresh-water Rhizopods of North America.* A complete bibliography of his numerous contributions to scientific literature can not be attempted here; we can only indicate a few of the principal monographs, such as *The Fossil Horse of America* (1847), *Ancient Fauna of Nebraska* (1853), *Memoir on the Extinct Sloth Tribe of North America* (1855), *Cretaceous Reptiles of the United States* (1865), *Extinct Mammalian Fauna of Dakota and Nebraska, together with a Synopsis of the Mammalian Remains of North America* (1869), *Contributions to the Extinct Vertebrate Fauna of the Western Territories* (1873), *Description of Vertebrate Remains from the Phosphate Beds of South Carolina* (1877), etc. In 1880 he was awarded the Walker Prize by the Boston Natural History Society, and the Lyell Medal by our own Geological Society for his contributions to palæontology. In 1886 the University of Harvard conferred on him the degree of LL. D.

In his own special province Leidy was acknowledged as one of the ablest teachers of his time. In 1861 he published an *Elementary Textbook on Human Anatomy*, in which he endeavored to simplify the needlessly complex nomenclature of that science, and to describe the body at first hand as he saw it. A second edition of this valuable work appeared in 1890. Some idea of Leidy's life of unremitting work may be gained from the fact that his published works and papers amount in all to more than a thousand.

During his thirty-eight years of teaching he was as popular as a man as he was venerated as an instructor, and the youngest student felt that he had in him a friend to whom he could always turn with confidence for help in difficulty and counsel in perplexity.

To Contributors and Correspondents.—*The attention of all who purpose favoring us with communications is respectfully called to the following:*

Authors of articles intended for publication under the head of "original contributions" are respectfully informed that, in accepting such articles, we always do so with the understanding that the following conditions are to be observed: (1) when a manuscript is sent to this journal, a similar manuscript or any abstract thereof must not be or have been sent to any other periodical, unless we are specially notified of the fact at the time the article is sent to us; (2) accepted articles are subject to the customary rules of editorial revision, and will be published as promptly as our other engagements will admit of—we can not engage to publish an article in any specified issue; (3) any conditions which an author wishes complied with must be distinctly stated in a communication accompanying the manuscript, and no new conditions can be considered after the manuscript has been put into the type-setters' hands. We are often constrained to decline articles which, although they may be creditable to their authors, are not suitable for publication in this journal, either because they are too long, or are loaded with tabular matter or prolix histories of cases, or deal with subjects of little interest to the medical profession at large. We can not enter into any correspondence concerning our reasons for declining an article.

All letters, whether intended for publication or not, must contain the writer's name and address, not necessarily for publication. No attention will be paid to anonymous communications. Hereafter, correspondents asking for information that we are capable of giving, and that can properly be given in this journal, will be answered by number, a private communication being previously sent to each correspondent informing him under what number the answer to his note is to be looked for. All communications not intended for publication under the author's name are treated as strictly confidential. We can not give advice to laymen as to particular cases or recommend individual practitioners.

Secretaries of medical societies will confer a favor by keeping us informed of the dates of their societies' regular meetings. Brief notifications of matters that are expected to come up at particular meetings will be inserted when they are received in time.

Newspapers and other publications containing matter which the person sending them desires to bring to our notice should be marked. Members of the profession who send us information of matters of interest to our readers will be considered as doing them and us a favor, and, if the space at our command admits of it, we shall take pleasure in inserting the substance of such communications.

All communications intended for the editor should be addressed to him in care of the publishers.

All communications relating to the business of the journal should be addressed to the publishers.

INDEX TO VOLUME LIII.

PAGE

Abasia, Astasia and 603
Abdomen, A Case of Extensive Injury of the 14
Abortion, The Treatment of 48
Abscess, A Case of Circumcæcal 37
Abscess, A Case of Perityphlitic 585
Abscess, A Case of Supposed Evacuation of a Psoas or Lumbar, through the Vagina 25
Abscess, Alveolar; a Reply to Dr. J. D. MacPherson 75
Abscess in an Infant, Hepatic 316
Abscess in the Right Frontal Lobe of the Brain. 723
Abscess of the Brain, Aphasia due to 81
Abscess of the Brain following Purulent Otitis Media 110
Abscess, Operation for Intracranial 630
Abscess, Subdural, following Purulent Otitis Media 110
Abscess, The Treatment of Alveolar 190
Abscess, Two Cases of Cerebral, from Long-continued Otorrhœa 108
Abscesses in Young Children, Glandular 567
Abscesses, The Treatment of Psoas and other Large Tuberculous, by Hot-water Flushing without Drainage 467
Academy of Medicine, The American 403
Academy of Medicine, The Cincinnati 403
Academy of Medicine, The New York 83, 131, 188, 221, 228, 278, 352, 411, 460, 552, 590, 655
Academy of Medicine, The Section in Genito-urinary Surgery of the New York 403
Academy of Medicine, The Section in Public Health and Hygiene of the New York 307
Accommodation, The Relative Range of 346
Acetone in Urine, A Method for the Quantitative Estimation of 134
Acetonuria 134
Aconite 37
Acromegalia 606
Addison's Disease 665
Address, Changes of 18, 47, 74, 189, 241, 278, 403, 488, 516, 538, 572, 598, 722
Adenitis in Children, Chronic Cervical 281
Adenocystoma of the Breast, Multilocular 311
Agraphia, Word-blindness and 605
"Air-garden" Project, The Reservoir 339
Air, Intra-uterine 752
Air-passages, Foreign Bodies in the 728
Albumin in the Urine, Heller's Test for 461
Albumina Minima, Transient and Dietetic 525
Alcohol and Digestion 288
Amputation at the Hip Joint with Preliminary Laparotomy 597
Amputation of the Left Upper Extremity 57, 253
Anæmia in Childhood, Pernicious 317
Anæmia, Parasites and Pernicious 74
Anæsthesia of the Gasserian Ganglion to relieve Obstinate Photophobia 103
Anæsthesia, The Cremasteric Reflex in Chloroform 533
Anæsthetic Agents used in Natural Labor, The Different 55
Anæsthetics to Children, The Administration of. 402
Anal Reflex, Physiology and Pathology of the 605
Anastomosis, Plates for Intestinal 47
Anatomy, Reports on 225
Aneurysm, A Proposed New Treatment for 371
Aneurysm, Arterio-venous 164
Aneurysm at the Root of the Neck, Ligature of the Carotid and Subclavin Arteries for. 291, 313
Aneurysm, Femoral 311
Aneurysm of the Aorta simulating Aneurysm of the Innominate 250
Aneurysm of the First Two Portions of the Subclavian Artery, The Operative Surgical Treatment for 339
Aneurysm of the Innominate Artery 374
Aneurysm of the Palmar Arch 163
Aneurysm of the Upper Extremity, A Case of Arterio-venous 173
Aneurysm, Popliteal 165
Aneurysm, The Diagnostic Value of the Physical Sign "Tracheal Tugging" in Thoracic 522
Aneurysm, The Wire Treatment of 164
Aneurysm of the Arch of the Aorta, A Large 135
Angeio-lipoma 52
Angell, E. B. A Contribution to the Surgical Treatment of Jacksonian Epilepsy 454
Angina Pectoris and Asthma, Hypodermic Injections of Nitroglycerin in the Treatment of 278
Angina, Pectoris, The Nature and Treatment of. 606
Anilines in the Treatment of Tuberculosis 130
Ankle Diseases, Thomas's Splint in Knee and 659
Ankle Joint and Chopart's Articulation, Arthrodesis of the 21
Annales d'oculistique 722
Anomalies of the Ocular Muscles 349
Anosmia 515
Anthelix, A Morphological Study of the 111
Antidrotics, Camphoric Acid and Tellurate of Sodium as 370
Antikamnia 608
Antipyrine in Certain Diseases of Children 317
Antipyrine, Notes on a Case of Poisoning by. 35, 52
Antisepsis in Scarlatina 318
Antiseptics, Methyl-violet and Safranin as 608
Antiseptics, Puerperal Infection and 756
Antiseptics, The Employment of Aniline Colors as 379
Aphasia 269
Aphasia due to Abscess of the Brain 81
Aphasia, Trephining for Traumatic 517

PAGE

Apollinaris Spring 82
Appendicitis 193, 252, 314, 374
Aprosexia in Children 248
Aristol in the Treatment of the Diseases of the Nose and Throat, Notes on 591
Arizona: a Winter Climate for Consumptives 367
Arm, Preservation of the, after Extensive Laceration 20
ARMY, CHANGES OF MEDICAL OFFICERS OF THE:
  Ainsworth, Fred C. 371
  Alexander, Charles T. 752
  Bache, Dallas 371, 598
  Baily, Joseph C. 752
  Banister, William B. 19, 629
  Bartholf, John H. 430
  Birmingham, Henry P. 371, 489, 598, 686
  Borden, William C. 752
  Brooke, Benjamin 629
  Brown, Paul R. 656
  Burton, Henry G. 430
  Bushnell, George E. 516, 572
  Byrne, Charles B. 572, 752
  Byrne, Charles C. 249
  Cabell, Julian M. 572
  Carter, Edward C. 686
  Carter, W. Fitzhugh 489
  Chapin, Alonzo R. 189, 278
  Clarke, Joseph T. 572
  Cochran, John J. 19
  Cowdrey, Stevens G. 19, 75, 189
  Cronkhite, Henry M. 308
  Davis, William B. 189, 308, 489
  DeHanne, J. Victor 278
  DeWitt, Calvin 189
  Ebert, Rudolph G. 19
  Edie, Guy L. 572
  Elbrey, Frederick W. 308
  Everts, Edward 75
  Finley, James A. 370
  Fryer, Blencowe E. 278, 371
  Gandy, Charles M. 189, 371
  Gardiner, John de B. W. 278
  Gardner, Edwin F. 75, 131
  Gardner, William H. 189
  Gibson, Robert J. 19, 189, 430
  Girard, Alfred C. 371
  Girard, Joseph B. 430, 572
  Greenleaf, Charles R. 371, 430
  Hall, John D. 686
  Harris, Henry S. T. 131
  Harvey, Philip F. 752
  Havard, Vallery 371, 572
  Hoff, J. Van R. 430, 461, 686
  Horton, Samuel M. 307, 752
  Huntington, David L. 430, 686
  Ireland, Merritte W. 629
  Irwin, Bernard J. D. 19, 249
  Ives, Francis J. 19, 131
  Janeway, John H. 572
  Johnson, Henry 430
  Johnson, R. W. 249
  Keane, Jefferson R. 686
  Kendall, William P. 572
  Kilbourne, Henry S. 75
  Kneedler, William F. 516
  LaGarde, Louis A. 572
  Lauder, John V. 75
  Lippincott, Henry 307
  Lippitt, William F., Jr. 629
  Loring, Leonard Y. 308
  Maus, Louis M. 249
  McCaw, Walter D. 572
  McCreery, George 629
  McElderry, Henry 489
  McKee, James C. 572, 598, 752
  Merrill, James C. 249, 489
  Middleton, Passmore 371, 489
  Owens, William O., Jr. 19, 189, 278
  Page, Charles 249
  Patzki, Julius H. 189, 572
  Phillips, John L. 131
  Poindexter, Jefferson D. 572
  Rafferty, Ogden 75
  Raymond, Henry L. 370
  Raymond, Thomas U. 18
  Reed, Walter 19, 189
  Shannon, William C. 371
  Shufeldt, Robert W. 278
  Skinner, John O. 629
  Smart, Charles 19
  Snyder, Henry D. 131
  Steinmetz, William R. 278
  Stephenson, William 19, 189
  Sutherland, Charles 75
  Swift, Eugene L. 430
  Taylor, Blair D. 752
  Taylor, Marcus E. 19
  Tilton, Henry R. 430
  Tremaine, William S. 308
  Vollum, Edward P. 371
  Wakeman, William J. 75
  Walker, Freeman V. 19, 752
  Waters, William E. 686
  Wells, George M. 629
  Wilcox, Timothy E. 371, 572
  Winne, Charles K. 371
  Wolverton, William D. 249
  Wood, Marshall W. 189, 629
  Woodhull, Alfred A. 516
  Wyeth, Marlborough C. 656
Army, The Medical Corps of the 307
Arnica Eruption 70

PAGE

Arsenic, A Study of the Pharmacology and Therapeutics of 390
Arsenic in Massachusetts, The Use of 287
Arteries, Ligation of both External Carotid 162
Arsenic in Tapioca 221
Arteries, Ligature of the Carotid and Subclavian, for Aneurysm at the Root of the Neck. 291, 313
Artery, A Peculiar Arrangement of the Subclavian and its Branches 721
Artery, Successful Trephining for Rupture of the Middle Meningeal 487
Arthritis, Acute 406
Arthrodesis of the Ankle Joint and Chopart's Articulation 21
Asphyxia, Trophic Disturbances following Oxide-of-Carbon 604
Assimilation, The Effects of Orexin on 618
Association, A Proposed Electro-therapeutic 74
Association for the Study and Cure of Inebriety, The American 46
Association Meetings in April, State Medical 403
Association of American Anatomists, The 187, 188
Association of Andrology and Syphilology, The American 496
Association of Central New York, The Medical. 626, 751
Association of Railway Surgeons, The National. 302
Association, The Alumni, of Bellevue Hospital 571
Association, The American Electro-therapeutic. 131
Association, The American Medical 188, 538
Association, The American Nurses' 104
Association, The Fairfield (Conn.) County Medical 430
Association, The Harlem Medical 37, 188, 273, 403, 538
Association, The Jenkins Medical, of Yonkers 339, 461
Association, The Kings County Medical 158, 538, 656
Association, The Lehigh Valley Medical 685
Association, The Manitoba Medical 751
Association, The New York Physicians' Mutual Aid 103
Association, The New York State Medical 74, 598, 628, 685, 732
Association, The South Carolina Medical 598
ASSOCIATIONS, MEETINGS OF. See SOCIETIES.
Astasia and Abasia 603
Asthenopia, Consitutional Conditions combined with Ametropia the Cause of 353
Asthenopia, Muscular 152, 345
Asthenopia, Muscular, and Professor Roosa 431
Asthenopia of Neurasthenics, The 379
Asthenopia, The Causes of 192
Asthma, Hypodermic Injections of Nitroglycerin in the Treatment of Angina Pectoris and 278
Asthma in Children 314
Astringents, The Internal Use of Simple 635
Asylums, Appointments in the New York State Lunatic 516
Asylums, Medical Women and the State Lunatic. 629
Ataxia, Comparison of Ocular Troubles in Locomotor 604
Ataxic Sign, An Early 103
Atheroma, Multiple 331
Atrophies of Childhood, The Cerebral 724
Atrophy in Brain Disorders, The Pathogenesis of Muscular 605
Atrophy, Progressive Muscular 605
Atropine in the Treatment of Localized Muscular Spasm, The Use of 295
Auditory Center, The 227
Auditory Meatus, Operation for Exostosis of the External 108
Aulde, J. A Study of the Pharmacology and Therapeutics of Arsenic 390
Aulde, J. Studies in Therapeutics, Aconite 37
Auricle, Idiopathic Perichondritis of the 107
Auricle, Malformation of the 107
Auricle, Ossification of the 107
Auricle, Two Cases of Epithelioma of the 110
Avulsion of the Scrotum 103

Bacilli, Notes on the Examination for Tubercle. 66
Bacteria, Influenza 538
Bacteria in the Living Body, Studies on the Action of Dead 637, 697
Bacteriology, A New Journal of 103
Bacteriology, Popular Teaching in 370
Ball, R. R. A Case of Fatal Septicæmia following Contused Injury to the Thumb in a Strumous Subject 184
Ball, R. R. Report of a Case of Acute Diffuse Peritonitis following the Use of Copious Enemata in Acute Dysentery 41
Barker, The late Dr. Fordyce 655, 664, 685
Barrows, C. C. The Immediate Repair of Lacerations of the Cervix Uteri 530
Baruch, Dr. Simon 722
Basedow's Disease, The Surgical Treatment of 727
Batholomew, J. N. A Case of Cæsarean Section made necessary by a Contracted Pelvis 297
Bates, W. H. A Case of Deafness with Absence of the Drum Membrane 242
Bates, W. H. Improvement in the Vision of Myopia by Treatment without Glasses 455
Baths in Measles, Cold 316
Baths, Public 544
Baths, The People's 460
Becker, C. P. Letter to the Editor 371
Bergtold, W. H. Addison's Disease 665
Beri-beri, History of Five Cases of 588

PAGE

Bicycle, Physical Hygiene and the 593
Biggs, H. M. Notes on a Case of Poisoning by Antipyrine 35, 52
Bills, The Insane Poor and Police Matron 412
Biology, The Da Costa Laboratory of 429
Birdsall, W. R. Therapeutic Experiments with Nitrogen Monoxide 266
Birth of a Viable Child at Six Months and a Half 576
Bladder, A Hair-pin in the 547
Bladder, A Stone in the 425
Bladder, Carcinoma of the 22
Bladder, Some Clinical Features of Stone in the 311
Blindness and Whooping-cough, Acute Transitory 236
Blindness, Cortical 347
Board, An Army Medical 188
Board of Health, The Annual Meeting of the Michigan State 496
Bone, Congenital Absence of the Fifth Metacarpal, and of the Little Finger 84
Bones, Traumatic Separation of the Right Parietal and Occipital 545
Book Notices:
  Arloing, S. Les virus 755
  Bartley, E. H. Text-book of Medical Chemistry 495
  Baudouin, M. L'Asepsie et l'antisepsie 549
  Bissell, M. T. Household Hygiene 495
  Blin, E. E. E. De l'ideé de persécution dans la mélancolie 495
  Bosworth, F. H. Taking Cold 635
  Bourneville, Sollier, et Pilliet. Recherches cliniques et thérapeutiques sur l'épilepsie, l'hystérie et l'idiotie 196
  Broadbent, W. H. The Pulse 193
  Cammann, D. M. The Physical Diagnosis of the Diseases of the Heart and Lungs and Thoracic Aneurysm 602
  Campbell, H. Flushing and Blushing 377
  Canfield, W. B. Practical Notes on Urinary Analysis 755
  Charcot, Blin et Colin, H. Leçons du mardi à la Salpêtrière 495
  Cooke, T. Aphorisms in Applied Anatomy 603
  Cornil, A. V., et Babes, V. Les bactéries et leur rôle dans l'étiologie, l'anatomie et l'histologie pathologiques des maladies infectieuses 601
  David, Th. Les microbes de la bouche 225
  Edinger, L. Twelve Lectures on the Structure of the Central Nervous System 284
  Flint, A. A Manual of Auscultation and Percussion 106
  Flint, James M. 489
  Fraenkel, C. A Text-book of Bacteriology 601
  Fraser, A. A Guide to Operations on the Brain 377
  Garretson, J. E. A System of Oral Surgery 55
  Gruber, J. A Text-book of the Diseases of the Ear 282
  Hamilton, F. H. A Practical Treatise on Fractures and Dislocations 603
  Hammond, W. A. A Treatise on the Diseases of the Nervous System 663
  Hare, H. A. A Text-book of Practical Therapeutics 55
  Harrison, R. Lectures at St. Peter's 135
  Hartridge, G. The Refraction of the Eye 495
  Hatfield, M. P. A Compendium of Diseases of Children 439
  Hayem, G., et Winter, J. Du chimisme stomacal 602
  Hurd, E. P. A Treatise on Neuralgia 344
  Jahresbericht über die Fortschritte auf dem Gebiete der Geburtshilfe und Gynäkologie 410
  Jaksch, R. v. Clinical Diagnosis 494
  Jastrow, J. The Time-relations of Mental Phenomena 136
  Kirmisson, Dr. Leçons cliniques sur les maladies de l'appareil locomoteur 602
  Klebs, E. Die allgemeine Pathologie 693
  Leffmann, H. Examination of Water for Sanitary and Technical Purposes 439
  Loring, E. G. Text-book of Ophthalmoscopy 662
  Massey, G. B. Electricity in the Diseases of Women 196
  Memorial Sketches of Dr. Moses Gunn 105
  Michener, etc. Special Report on Diseases of the Horse 549
  Miller, W. D. The Micro-organisms of the Human Mouth 224
  Mitchell, C. P. The Philosophy of Tumor Disease 55
  Œuvres complètes de J. M. Charcot 464
  Oldberg, O. A Manual of Weights and Measures 550
  Ott, I. The Modern Antipyretics 755
  Parvin, T. The Science and Art of Obstetrics. 56
  Pfeiffer, L. Die Protozoen als Krankheitserreger 439
  Piffard, H G. A Practical Treatise on Diseases of the Skin 726
  Purdy, C. W. Diabetes 692
  Regnier, L. R. Hypnotisme et croyances anciennes 754
  Rohé, G. H. Text-book of Hygiene 343
  Salomonsen, C. J. Bacteriological Technology for Physicians 283
  Seifert, O., and Müller, F. Manual of Clinical Diagnosis 343
  Senn, N. Principles of Surgery 549
  Shattuck, F. C. Auscultation and Percussion. 439

PAGE

Book Notices:
  Starr, L. Diseases of the Digestive Organs in Infancy and Childhood 635
  Tait, L. Diseases of Women and Abdominal Surgery 377
  Tarnowsky, P. Étude anthropométrique sur les prostituées et les voleuses 225
  The Medical Bulletin Visiting-List 106
  The Physician's All-requisite Account Book 106
  The Physician's Visiting-List, 1891 106
  Transactions of the American Gynæcological Society 409
  Trouessart, E. L. Les microbes, les ferments et les moisissures 106
  Tyson, J. A Guide to the Practical Examination of Urine 343
  Uffelmann, J. Manual of the Domestic Hygiene of the Child 602
  Vierordt, H. Altes und Neues in der Therapie. 438
  Vierordt, H. Kurzer Abriss der Perkussion und Auskultation 464
  Winckel, F. A Hand-book of Diseases of Women 135
  Woody, S. E. The Essentials of Medical Chemistry and Urinalysis 495
  Ziegler, E. Lehrbuch der allgemeinen und speciellen pathologischen Anatomie 106
Bosley, G. H. Salol in Pneumonia 126
Bradfute, C. S. Digitalis and Strychnine in a Failing Circulation 31
Brain, Abscess in the Right Frontal Lobe of the. 728
Brain, A Large 226
Brain, Aphasia due to Abscess of the 81
Brain, Bullet Wound of the 52
Brain Disease without Symptoms, Death from 299
Brain, Drainage of the Ventricles of the 277
Brain, Hydatid Tumor of the 80
Brain, Recovery after a Train of Symptoms indicating Tumor of the 54
Brain, The Surgery of the Lateral Ventricles of the 79
Brain, Tumor of the 81
Brandt's System in Gynæcology 87
Brannan, J. W. Reports on General Medicine. 520
Braun, The late Professor Carl 694
Breast, Multilocular Adenocystoma of the 311
Bright's Disease, The Ætiology of 521
Bromoform in Pertussis 315
Bronchiectasis in Young Children 458
Bronchus, A Foreign Body in the 537
Brush, E. F. Sterilized Milk 719
Bryson, L. F. Reports on Dermatology 234
Bull, C. S. Papillitis, or Inflammation of the Intra-ocular End of the Optic Nerve 205
Bull, C. S. Reports on Ophthalmology 344, 378
Bull, C. S. Reports on Otology 106
Bull, W. T. Notes on Cases of Hernia which have relapsed after Various Operations for Radical Cure 615, 630
Burial, The Right of 412
Burn of the Arm, An Extensive, treated by Skin Grafting 492
Burnett, S. G. The Diagnosis of Incipient Melancholia 497
Butcher, of Dublin, The Death of Surgeon 429
Byron, J. M. A Case of Reflex Epileptoid Convulsions following an Eruption of Zoster 33

Cactina: A New and Valuable Cardiac Stimulant 681
Cæsarean Section made necessary by a Contracted Pelvis 297
Cæsarean Section, My Fourth 500
Caffeine in the Treatment of Puerperal Hæmorrhage, Subcutaneous Injections of 756
Calculi, Extirpation of the Gall-bladder for 77
Calculi, Specimens of Urethral 463
Calculus, Biliary 223
Calculus impacted in the Ureter 82
Calculus, Nephrolithotomy for 77
Calculus, Salivary. 133
Calculus, Suprapubic Cystotomy for 617
Calculus, The Passage of a Large Biliary, through an Umbilical Fistula 131
Calls? Must Physicians answer Urgent 287
Calomel Plaster for Syphilis 285
Camphoric Acid and Tellurate of Sodium as Antidrotics 370
Cancer (?) of the Gall-bladder 252
Cancer of the Kidney 21, 79
Cancer of the Pylorus, Gastro-enterostomy rather than Resection for 53
Cancer of the Stomach, Pylorectomy with Gastro-enterostomy for 52
Cancer of the Uterus 310
Cancer Remedy 596
Cancer, The Contagion and Inoculability of 286
Cantharidin, Liebreich's 684
Carcinoma of the Bladder 22
Carcinoma of the Cervix complicating Pregnancy 757
Cardiac Lesions 135
Carlisle, R. J. A Case of Circumcæcal Abscess. 37
Carr, W. L. Laryngismus Stridulus 242
Carreau, The Death of Dr. Joseph A., of Brooklyn 46
Cartilage, Detachment of the Semilunar 23
Caruncula Lacrimalis, The 226
Cascara Sagrada, A Clinical Study of 205
Cataphoresis, Note on a New Method of 473
Cataract, Studies on the Formation of 381
Catarrh, Deep Medication in the Treatment of Posterior Urethral 688
Cautery, A Danger in the Paquelin 22
Cautery in Surgery, The Electric 161

PAGE

Cautery, The Use of the Actual, in Infected Ulcers of the Cornea 624
Census of 1891, The Irish 751
Cerebral Disease resembling Tumor terminating in Recovery 81
Cerebral Softening in a Syphilitic Child 316
Cervix Uteri, The Immediate Repair of Lacerations of the 530
Chancres, Excision of 728
Charities, Indiscriminate Medical 460
Cheese, A New Poison in 370
Chiasma, The Decussation of Fibers at the Optic 226
Chicken-pox and Other Infectious Diseases, The Coexistence of 655
Chilblains 287
Child, Birth of a Viable, at Six Months and a Half 576
Child, Cerebral Softening in a Syphilitic 316
Childhood, American, from a Medical Standpoint 575
Childhood, Pernicious Anæmia in 317
Childhood, The Cerebral Atrophies of 724
Children, Antipyrine in Certain Diseases of 317
Children, Aprosexia in 248
Children, Asthma in 314
Children, Bronchiectasis in Young 458
Children, Certain Convulsive Disorders in Young. 578
Children, Chronic Cervical Adenitis in 281
Children, Croupous Pneumonia in 277
Children, Disordered Digestion in Young 577
Children, Enlargement of the Spleen in the Malarial Diseases of 601
Children, Glandular Abscesses in Young 567
Children, Paralysis occurring during the Course of Pneumonia in 579
Children, Pericarditis in Young 315
Children, Purpura in 316
Children recently Born, Observations on some Diseases of 578
Children, Reports on Diseases of 314, 577
Children, Spinal Paralysis in 628
Children, Tachycardia in 633
Children, The Administration of Anæsthetics to. 402
Children, The Radical Cure of Umbilical Hernia in 130, 489
Children, The Therapeutic Effect of Stomach Washing in 318
Children, Tuberculosis in 201, 224
Chloroform Administration, Death during 402
Chloroform, The Inconvenience and Danger attending the Administration of, in the Presence of an Open Flame 493
Cholera Cure, A Note on the Probable Discovery of Snake-bite and 350
Cholera Infantum 577
Cholesteatoma 108
Cholesteatoma of the Middle Ear 82
Chopart's Articulation, Arthrodesis of the Ankle Joint and 21
"Chorditis Tuberosa," The Condition known as 85, 104
Chorea, A Study of 577
Chorea, Exalgine in 577
Chorea, Rheumatism, and Heart Disease 317
Chorea, Sodium Salicylate in 316
Chorea to Rheumatism, The Relations of 134
Chorioido-retinitis, Ametropic 350
Chyluria, Filarial, treated with Thymol 459
Circulation, Digitalis and Strychnine in a Failing 31
Circumcision, The Hygiene of 484
Claiborne, J. H. The Use of the Actual Cautery in Infected Ulcers of the Cornea 624
Clairvoyant, A, outwitted 516
Clavicle, Luxation of the Inner End of the, Forward 728
Club, The Hospital Graduates' 655
Coca, Erythroxylon 748
Cocoa-nut, The Tænicide Properties of the 45
Cole, C. S. A New Method of reducing Anterior Dislocations of the Humerus 239
Coles, The late Dr. Abraham 538
Coley, W. B. A Clinical Report of Operative Surgery in the Service of Dr. William T. Bull at the New York Hospital 441, 475, 510, 618, 704
Colgrove, L. R. Letter to the Editor 131
College, Bellevue Hospital Medical 403
College, Columbia 655, 685
College of New Jersey, The Medical and Surgical 28
College of Pharmacy, The New York 488
College, of Philadelphia, The Jefferson Medical. 339
College of Physicians and Surgeons, The 187
College of the New York Infirmary, The Woman's Medical 188
College, The Chair of Surgery in Rush Medical. 551
College, The Jefferson Medical 188, 571
College, The Missouri Medical 370
College, The Rush Medical, of Chicago 18, 684
Colobomata, Extrapapillary 349
Coloproctostomy 402
Color-blindness, The Various Theories offered in Explanation of Peripheral 346
Coma, Diabetic 252
Compression, Surgery for Spinal Cord 605
Congress, A Balneological 122
Congress, A Proposed International American Medical 460
Congress for the Study of Tuberculosis, The Second 580
Congress of American Physicians and Surgeons. 320, 339, 440

PAGE
Congress of Hygiene and Demography, The Seventh International.......................... 580
Congress of Physicians, The Tenth German.... 307
Congress, The Proposed Pan-American.......... 628
Constipation in an Infant, Gradual Dilatation of the Sphincter Ani for Chronic.............. 279
Consumption, Liebreich's Remedy for.......... 249
Consumption, The Inhalation Method in the Treatment of.............................. 74
Consumptives, Arizona : a Winter Climate for. 367
Convulsions following an Eruption of Zoster, A Case of Reflex Epileptoid................. 36
Convulsions in an Infant, Tetanoid............. 316
Cornea, The Nerve-terminations in the. 348
Cornea, The Treatment of Ulcers of the........ 338
Cornea, The Use of the Actual Cautery in Infected Ulcers of the.......... 624
Correspondents, Answers to.... 19, 47, 159, 190, 308, 431, 489, 539, 629, 656
Corrosion, A Study of the Anatomy of the Lungs as shown by............................ 257
Cortex, Substitution in the Cerebral............ 18
Couch, The Postural or "Lifting"............ 480
Cowl, W. Y. Is the Cause of Respiration the Venosity of the Blood and Tissue Fluid in the Respiratory Center of the Medulla Oblongata ?.... 641
Crandall, F. M. Reports on Diseases of Children.............................. 314, 577
Craniectomy for Microcephalism............... 72
Creolin in Erysipelas and Eczema.............. 384
Creolin, The Deodorization of Iodoform by..... 400
Cretinism, Sporadic........................... 684
Crico-thyreoid Membrane, Rupture of the...... 433
Crossland, J. C. The Hygiene of Circumcision. 484
Crowell, H. C. A Case of Myomectomy........ 301
Cumming, The Death of Dr. James R., of Bridgeport, Conn.................................. 188
Currier, A. F. Reports on Gynæcology........ 196
Currier, A. F. Reports on Obstetrics...... 137, 755
Curtis, B. F. Some Cases of Perityphlitis...... 7
Curvature of the Spine, Lateral................ 544
Cutaneous Disease, Flushing as a Cause of..... 369
Cutter, The Death of Dr. George R............. 188
Cutter, The late Dr. George R.................. 307
Cyst, A Case of Omental...................... 317
Cyst, A Chyle................................ 467
Cystoscope, A New French..................... 493
Cystoscopy, The Progress of.................. 161
Cystotomy, Suprapubic.................... 311, 312
Cystotomy, Suprapubic, for Calculus........... 617

Daily, S. J. Letter to the Editor............... 48
Damage Cases, Physical Examinations in....... 170
Damages, Pain in Amputated Limbs as a Basis for.. 171
Dandruff, The Treatment of.................. 187
Davis, E. P. A Case of Post-partum Eclampsia, Multiple Atheroma, and Death............. 334
Davis, W. E. B. Operative Procedures in Acute General Suppurative Peritonitis............ 387
Dawbarn, R. H. M. Letter to the Editor........ 723
Deafness consecutive to la Grippe, Labyrinthine. 110
Deafness (Sclerosis), Progressive, and its Treatment by Tenotomy of the Tensor Tympani. 108
Deafness with Absence of the Drum Membrane, A Case of.............................. 242
Death during Chloroform Administration....... 402
Death from Brain Disease without Symptoms... 299
Death from Disease of the Cervical Glands..... 459
Deformity of the Knees, Congenital........... 660
Deformity of the Legs, Rhachitic............... 661
Degeneration of the Placenta, Cystic.......... 252
De Lanessan, Professor........................ 598
Dentistry in China.................. 185
Dentition in its Relation to Various Pathological Conditions............................. 634
Dermatitis Medicamentosa, A Case of.......... 366
Dermatology, Reports on...................... 284
Detachment of the Retina treated by Operation. 326
Detachment of the Semilunar Cartilage..... ... 23
Diabetes and Insanity......................... 45
Diabetes Mellitus, The Gastric Secretion in..... 522
Diabetes, Pancreatic........... 523
Diagnosis, The Value of Auscultatory Percussion as a Method of...................... 709
Diarrhœa, Hydronaphthol in the Treatment of.. 315
Diarrhœa, Salol in Malarial................... 316
Diarrhœa, The Treatment of.... 577
Digestion, Disordered, in Young Children...... 577
Digestion in Infants, The Physiology of 577
Digitalis and Strychnine in a Failing Circulation...................................... 31
Dilatation, A Plea for Rapid.................. 191
Diphtheria in Animals and Man.... 315
Diphtheria, Nature and Treatment of.......... 315
Diphtheria, Recent Contributions to our Knowledge of... 463
Diphtheria, Tobacco in the Treatment of....... 571
Diplopia, The Causes of the apparently Nearer Position of the Lower of Two Images in Vertical.................................. 349
Disease, A New Ophthalmic.................... 559
Disease of the Cervical Glands, Death from..... 459
Disease of the Uterine Appendages, The Treatment of Chronic.......................... 400
Diseased Conditions, The Duration of.......... 397
Diseases of the Spinal Cord, The Degenerative, with a Description of a New Type.......... 279
Disinfection, Excessive, of the External Genital Organs of Parturient Women............... 756
Dislocation, Irreducible, of the Shoulder treated by a Bloody Operation 433
Dislocation of Both Shoulders, Simultaneous... 311

PAGE
Dislocation of the Hip, Pathological........... 406
Dislocation of the Left Os Innominatum....... 434
Dislocation of the Semilunar Bone, Compound. 20
Dislocation of the Ulna, Recurrent............. 493
Dislocation, Supracotyloid................ 589
Dislocations of the Humerus, A New Method of reducing Anterior..... 239
Dislocations of the Shoulder, Old Traumatic, treated by Excision of the Head of the Humerus................................ 362, 373
Dispensaries, The Administration of Sterilized Milk in.................................. 123
Dispensary and Hospital, The Orthopædic...... 597
Dispensary, The Good Samaritan.............. 721
Dispensary, The Midwifery.................... 538
Displacements, The Treatment of Posterior Uterine, by Utero-vaginal Ligature 253
Distichiasis and Trichiasis Operations......... 378
Doctors, A New Way to "beat" the........... 628
Doctors of Medicine, State Uniform of French. 386
Drainage, A Simple Apparatus for Permanent Suprapubic.......... 318
Drainage after Abdominal Section............. 196
Drainage in Abdominal Surgery................ 691
Drainage of the Ventricles of the Brain......... 277
Drainage, Wound Treatment without........... 82
Drayton, H. S. A Note on Epilepsy............ 569
Dressings in Wounds with Profuse Secretions, Sponge................................ ... 488
Drug Eruptions, Contribution to the Study of... 286
Drug Intolerance, The Mitigation of........... 459
Drugs, Concerning the Prescription of Proprietary.................................... 306
Drugs, The Love of 70
Dublin, Letters from................. 42, 274, 486
Du Bois, The late Dr. Coert 74
Duct, The Thyreo-glossal................ 227
Dunn, J. A Case of Injury to the Left Supraorbital Nerve.............................. 621
Dunn, J. A Case of Scrofuloderma............ 595
Dunn, J. H. Letter to the Editor............... 599
Durand, C. F. Letter to the Editor............ 279
Dwight, E. S. An Epidemic of presumably Malarial Origin, etc.. 33
Dysentery, Acute Diffuse Peritonitis following the Use of Copious Enemata in Acute...... 41

Ear, Cholesteatoma of the Middle.............. 82
Ear in Tabes Dorsalis, The Affections of the.... 109
Ear, Lesions of the, during the Epidemic of la Grippe in 1889–'90........................... 110
Eclampsia, Multiple Atheroma, and Death, A Case of Post-partum........................ 334
Eclampsia, The Germ of Puerperal............. 186
Eczema, Creolin in Erysipelas and............. 384
Eczema Seborrhoicum 174
Editorial Articles, A Low Estimate of 130
Education in Canada, Medical.................. 751
Effusions of the Chest, The Treatment of Large Serous, by Incisions......................... 54
Einhorn, M. Letter to the Editor.............. 601
Elbow Joint, Fractures at the.............. 740, 753
Elder, T A. Letters to the Editor.......... 48, 723
Electricity, A New System of Therapeutic Administration of Static........................ 49
Electricity in Surgery, etc...................... 647
Electricity, Under what Conditions can, be of Service to the Gynæcologist ?.............. 342
Electrolysis in Sclerodermia.................... 287
Elliot, G. T. Eczema Seborrhoicum 174
Elliot, G. T. Some Cutaneous Eruptions appearing under Plaster-of-Paris Dressings........ 413
Embryotomy of the Living Fœtus Justifiable ? Is 573
Emerson, J. B. A Contribution to the Study of the Treatment of Retinal Detachment...... 330
Empyema, The Electric Illumination of the Antrum of Highmore in...................... 110
Encephalocele, A Case of Congenital...... . 132
Enchondroma, A Supposed Sarcoma of the Upper Jaw that proved to be an............... 584
Endocarditis, Ulcerative....................... 135
Endometritis during the Course of Acute Infectious Diseases........................... 757
Endowments as Memorials, Hospital.......... 187
Enema ? What is the best Nutritive............ 751
Enlargement of the Liver, Enormous........... 133
Entropion and Trichiasis, A New Operation for. 381
Enuresis, A Simple Cure for Nocturnal......... 112
Epidemic of Presumably Malarial Origin, An... 33
Epilepsy, A Contribution to the Surgical Treatment of Jacksonian.................. 454
Epilepsy, A Note on........................... 569
Epilepsy, Biborate of Sodium in............... 315
Epilepsy following Influenza, Jacksonian....... 130
Epilepsy from Depressed Fracture produced with an Obstetric Forceps...... 466
Epilepsy, Trephining for, with Reimplantation of Bone.................................. 223
Epileptics, A Proposed Colony for............. 172
Epistaxis, A Treatment of...................... 307
Epithelioma.................................. 252
Epithelioma of the Auricle, Two Cases of....... 110
Epithelioma, Removal of a Pharyngeal......... 310
Equino-varus, Congenital (Double), with Exsection of both Tarsi........................ 404
Equino-varus, Double Talipes 312
Ergotole in Placenta Prævia.................... 411
Ergotole, Some Clinical Observations upon the Use of 653
Eruption, Arnica.............................. 70
Eruptions appearing under Plaster-of-Paris Dressings, Some Cutaneous.......... 413
Erysipelas and Eczema, Creolin in........ 384
Ether-drinking in Ireland 597

PAGE
Exalgine in Chorea............................ 577
Examinations in Damage Cases, Physical....... 170
Examinations, The Question of Compulsory.... 628
Examiners of New Jersey, The State Board of Medical... 338
Examiners, The New Board of................. 191
Excision of the Hip for Tubercular Osteitis..... 404
Excision of the Knee Joint.................... 493
Excision of the Tongue........................ 729
Exostosis of the External Auditory Meatus, Operation for 108
Exsection of both Tarsi....................... 404
Eye Diseases, Pyoctanin in.................... 129

Falloppian Tubes, Contortion of the........... 250
Falloppian Tubes in Fibro-myomas of the Uterus, Pathological Changes in............ 757
Farrington, J. M. Reminiscences.............. 736
Faulkner, R. B. Laryngitis in Vocalists 427
Fel Bovis Inspissatum as a Therapeutic Agent.. 576
Fever, An Unexpected Cause of Puerperal...... 626
Fever, Rheumatic........... 652
Fibroids, Some Recent Cases of Operation for Uterine 124
Fibroids, The Treatment of Uterine, with Apostoli's Method......................... 758
Fibromata of the Uterus as Complications of Pregnancy 137
Fibro-myomas of the Uterus, A Rare Complication of.............................. 757
Fibro-myomas of the Uterus, Pathological Changes in the Falloppian Tubes in........ 757
Fibromyomata, The Methods of Electrical Treatment of Uterine........................ 199
Fibrosarcoma of the Foot 494
Figueira, M. Letter to the Editor.............. 686
Finger, Sarcoma of the........................ 690
Flat-foot, Resection of the Astragalo-scaphoid Articulation for Aggravated 404
Fluhrer, W. F. A New Urethrotome........... 97
Flushing as a Cause of Cutaneous Disease...... 369
Fœtus in the Uterine Cavity, Retention of the Dead.................................. 138
Fœtus, Is Embryotomy of the Living, Justifiable ?................................ 573
Fœtus, Retention of the Dead, in the Uterine Cavity 756
Food and Drugs in New York State, The Inspection of.............................. 338
Food and its Preparations, A Lecture on. 430
Food, Neave's............. 496
Foods, Nitrogen-containing, and their Relations to Morbid States 730
Forceps, A Modified Short Perineal............ 256
Forceps, A New Needle........................ 550
Forceps, A New Thumb........................ 382
Forceps, Demonstration on the Manikin of the Atmospheric Tractor as a Substitute for.... 437
Foreign Bodies in the Air-passages............. 728
Foster, M. L. Reports on Anatomy............ 225
Foster, M. L. Reports on General Surgery..... 727
Foster, M. L. Reports on Surgery....... .. 79, 465
Fowler, G. R. Report of Five Cases of Nephrectomy 215
Fracture of the Anatomical Neck of the Humerus 310
Fracture of the Base of the Skull 466
Fracture of the Clavicle from the "Kick" of a Rifle. 722
Fracture of the Leg, The Non-operative Treatment of Delayed Union in 166
Fracture of the Skull, Compound Comminuted, with Loss of Brain Substance.............. 535
Fracture, Secondary, Colles's.................. 223
Fractures at the Elbow Joint............. 740, 753
French, T. R. The Action of the Glottis in Singing............ 113
Fund, The Rush Monument................... 541

Gall-bladder, Extirpation of the, for Calculi 77
Gall-stone, A Large, producing Complete Intestinal Obstruction...................... .. 519
Gall-stone, Section of the Intestine for the Removal of a 520
Gall-stones, The Treatment of.................. 256
Ganglia, Automatic Menstrual.............. 93, 273
Gangrene of Atheromatous Origin, Double Amputation for............ 156
Gangrene of the Feet, Symmetrical............. 519
Gasserian Ganglion, Removal of the, for Severe Neuralgia 537
Gastrodiaphan, Pelveoscope and 657
"Gastrodiaphan," The......................... 601
Gastro-enterostomy for Cancer of the Stomach, Pylorectomy with........................... 52
Gastro-enterostomy rather than Resection for Cancer of the Pylorus...................... 53
Gastrostomy, Brief Notes on 160
Gastrotomy 519
Gastrotomy for a Foreign Body................ 467
Gazette, The Dietetic.......................... 43
Genito-urinary Surgery, The New York Academy of Medicine's Section in.............. 278
Genu Valgum and Tenosynovitis of the Toes... 493
Gestation and Parturition, The Placenta, Funis, and Membranes, and their Influence on..... 547
Gestation, Extra-uterine........................ 138
Gestation in the First Months, Tubal.......... 137
Gestation, On the Surgical Treatment of Ectopic.................................... 650
Gestation, Tubal............................... 134
Gibbons, R. H. The "McBurney Point"...... 452
Gibier, P. Experimental Research on Professor R. Koch's Fluid.......................... 303

PAGE
Gilliam, D. T. Some Recent Cases of Operation for Uterine Fibroids.... 124
Girls be Educated? How should.... 321
Gland of the Aqueous Humor 348
Gland of the Ciliary Processes.................. 348
Gland, Uveal.......... 348
Glaucoma, Iridescent Vision in................ 345
Glioma of the Retina, Contribution to the Anatomical and Clinical Study of... 348
Glottis in Singing, The Action of the.. 113
Glycogen in the Cornea and Conjunctiva of Pathological Eyes... 349
Gold and Manganese in Tuberculosis........... 220
Goldenberg, H. Polyps of the Male Urethra... 533
Gonococcus of Neisser and Arthritic Effusions-. 132
Gonorrhœa in Women, The Treatment of Acute, with the Constant Current................. 758
Goodwillie, D. H. Electricity in Surgery, with Special Reference to its Use in the Nose, Mouth, and Throat.......................... 647
Gregg, W. H. Letter to the Editor............ 724
Gregg, W. H. Terpene Iodide in Acute Diseases of the Lungs 184
Grippe, Ocular Complications of la 380
Gundry, The Death of Dr. Richard............. 571
Gunshot Wounds of the Intestine and Spleen... 493
Guyer, F. W. Old Traumatic Dislocations of the Shoulder treated by Excision of the Head of the Humerus................. 362, 373
Gynæcology, Brandt's System in................ 87
Gynæcology, Reports on.................. 196, 757
Gynæcology, The Swedish Movements in....... 757

Hæmatoma of the Ovary........................ 250
Hæmatoporphyrin of the Urine................. 524
Hæmorrhage during the Last Months of Pregnancy, Accidental.......................... 515
Hæmorrhage, Subcutaneous Injections of Caffeine in the Treatment of.... 756
Hæmorrhage, The Chronic Sequences of Cerebral....... 254
Hagan, H. A Case of Dermatitis Medicamentosa.................................. 366
Hallucinations, A Case of Homonymous Hemiopic............................... 514
Hallucinations, Homonymous Hemiopic........ 121
Hare-lip, The Heredity of....................... 315
Headache, One Thousand Cases of Ocular...... 193
Health Resorts, Notes on some Southern.. 677
Heart in Mitral Lesions, The Condition of the Left Side of the.......................... 684
Heart, The Rhythmic Action of the............ 500
Helix, The Continuous-coil Induction........... 410
Heloderma, Medical and other Opinions upon the Poisonous Nature of the Bite of the..... 581
Hemianopsia, A Unique Case of................ 45
Hemianopsia, Bilateral........................ 381
Herald, The Medical. 598
Heredity as a Factor in Renal Pathology........ 335
Hermaphroditism, A Case of................... 125
Hernia in Children, The Radical Cure of Umbilical.......................... 130, 489
Hernia, Infantile............................. 666
Hernia, Laparotomy on a Child Ten Hours Old for the Cure of Congenital Umbilical........ 586
Hernia, Notes on Cases of, which have relapsed after Various Operations for Radical Cure.............................. 615, 630
Hernia, Posture in the Reduction of............ 723
Hernia, The Treatment of, by the Hank Truss.. 574
Hernial Sac, Two Pins in a 23
Herrick, C. B. Railroad Surgery............... 263
Herzog, A. W. Letters to the Editor.. 490, 687, 753
Heterophoria, A New Test for................. 345
Hinkson, J. R. Laparotomy on a Child Ten Hours Old for the Cure of Congenital Umbilical Hernia............. 586
Hip-joint Disease, Adjusted Locomotion in the Treatment of the Recovering Stage of...... 545
Hip, Obscure Disease of the.................... 659
Hodenpyl, E., and Prudden, T. M. Studies on the Action of Dead Bacteria in the Living Body.. 697
Hodgman, W. H. A Stone in the Bladder..... 425
Hoffmann, C. Letter to the Editor............ 462
Hofheimer, J. A. Glandular Abscesses in Young Children 567
Holmes, E. W. Aphasia........................ 269
Holt, L. E. Letter to the Editor 601
Holt, The Death of Dr. Albert F., Surgeon-General of the State of Massachusetts 18
Homologies, Obstetrical and Editorial.......... 759
Hopkins, H. R. Letter to the Editor........... 432
Hospital and Dispensary, St. Bartholomew's.... 516
Hospital at Greytown, The..................... 17
Hospital, Charity 370
Hospital, The Dispensary, of Mount Sinai...... 221
Hospital, The Italian............... 188
Hospital, Mount Sinai.......................... 538
Hospital, The Long Island College......... 339, 598
Hospital, The Maine General.................. 722
Hospital, The Mercy, at Pittsburgh............ 461
Hospital, The New York.................. 430, 488
Hospital, The New York Dispensary and Orthopædic....................................... 685
Hospital, The Norwegian, Brooklyn............ 554
Hospital, The Nursery and Child's 131
Hospital, The Seney, Brooklyn 18
Hubbard, D. L. Letter to the Editor.......... 20
Humerus, A New Method of reducing Anterior Dislocations of the.. 239
Humerus, Fracture of the Anatomical Neck of the 310
Hun, H. The Pathology of Acute Ascending (Landry's) Paralysis............ .. . 609, 632

PAGE
Hydrarthrosis of the Knee Joint................ 405
Hydrocele, Multilocular Encysted.............. 314
Hydrocephalus, Tapping the Ventricles in...... 577
Hydrogen Dioxide; its Antiseptic Action 17
Hydronaphthol in the Treatment of Diarrhœa .. 315
Hydronephrosis, Dr. Woolley's Case of. 372
Hydrosalpinx and Pyosalpinx, Diagnostic and Therapeutic Experience concerning......... 197
Hygiene, Physical, and the Bicycle............ 593
"Hygienic Treatment," The so-called.......... 48
Hygroma of the Popliteal Space................ 314
Hyperemesis Gravidarum...................... 139
Hyperplasia of the Prostate, Fibro-glandular ... 663
Hyperpyrexia 652
Hypertrophy, A Fibroid...................... 289
Hypnotism.................................... 44
Hypnotism and its Employment in Certain Diseased Conditions, Some Personal Observations upon 59
Hypnotism, Apparent Dupuytren's Contraction of the Palmar Fascia treated by 220
Hypnotism, Extraordinary...... 386
Hypnotism, The Consequences of an Experiment with.. 300
Hypnotism, The Legal Aspects of 411
Hyrtl's Eightieth Birthday..................... 46
Hysteria, Two Cases of Traumatic....... 161, 192
Hysteria with Paroxysmal Inspiratory Spasm... 515
Hysterorrhaphy, Transperitoneal, etc........... 11

Ichthyol, A Preliminary Report on the Treatment of Atrophic Rhinitis with............. 563
Illinois, Foreign Degrees in.................... 296
Impostors and the Koch "Lymph" 287
Inebriety, The Prevention of Narcotic. 249
Infant Feeding, The Theory and Practice of.... 446
Infant, Gradual Dilatation of the Sphincter Ani for Chronic Constipation in an 279
Infant, Hepatic Abscess in an.................. 316
Infant, Tetanoid Convulsions in an............. 316
Infant, The Relations of the Pelvic Viscera in the.................................. . 317
Infants, The Dose of Salol for................. 500
Infants, The Physiology of Digestion in........ 577
Infants, Stomach-washing in the Gastric Disorders of.......... 578
Infection and Tumor-formation 728
Infection during Pregnancy, The Influence of Syphilitic................ 137
Infection from Milk, Tubercular............... 68
Infection, Puerperal, and Antiseptics........... 756
Infectious Diseases, Endometritis during the Course of Acute......................... . 757
Infectious Diseases, Errors in the Diagnosis of . 315
Inflammation in Women, Pelvic................ 194
Inflammation in Women, The Treatment of Pelvic... 195
Inflammation of the Intra-ocular End of the Optic Nerve.................................. 205
Inflammations of the Membranes of the Eye, Hyperplastic 378
Inflammatory Processes of the Middle Ear and Mastoid Cells, The Bacteriology of some ... 107
Influenza at New Orleans....... 18
Influenza in Dogs.............................. 304
Influenza, Jacksonian Epilepsy following....... 130
Influenza, On the Ætiology of.................. 419
Influenza, Vaccination as a Preventive of....... 384
Inhalations in the Treatment of Phthisis........ 694
Inhaler, A New Ether......................... 579
Inhaler, A New "Pocket"......... 467
Injuries from Icy Sidewalks.................... 170
Injury of the Abdomen, A Case of Extensive... 14
Injury to the Left Supra-orbital Nerve, A Case of... 621
"Inoculation," The Koch "Lymph" and 28
Insane of Queens County, The Pauper.......... 18
Insanity, Diabetes and 45
Insanity, The Relation of Intercurrent Acute Diseases and Serious Injuries to Recovery in Two Thousand Cases of 166
Institute in New York, A Koch................ 104
Institute, The First Koch 158
Institute, The New York Pasteur............... 370
Instruments, Dr. James Johnston's Aseptic Pocket-case................................ 188
Instruments, Aseptic Pocket-case. 169
Instruments, Presentation of, at the Twelfth Annual Meeting of the American Laryngological Association............................ 111
Insufficiency of the Stomach, The Diagnosis of Motor. 523
Insurance, Child Life.......................... 571
Intubation Tube, A Modification of the Laryngeal... 728
Intussusception...................... 374, 434, 578
Intussusception treated by Injection of Air..... 317
Iodantipyrine and Iodantifebrine....... 731
Iodoform, The Deodorization of, by Creolin. .. 400
Iris, Sarcoma of the, in a Child aged Two Years. 346

Jackson, F. W. The Value of Auscultatory Percussion as a Method of Diagnosis.......... . 709
Jacoby, G. W. A Contribution to the Diagnosis of Raynaud's Disease 143
Jacoby, G. W. Acute Transitory Blindness and Whooping-cough........................ 236
Japan, Advice from........................... 759
Japan, The Medical Faculty in................. 694
Jaundice, Typhoid Fever complicated with..... 460
Jaw, Recurring Luxation of the Lower 223
Johnson, of Chicago, The late Dr. Hosmer Allen. 352
Johnson, The Death of Dr. Hosmer Allen, of Chicago...................................... 307

PAGE
Joint, Injuries to the Knee... 160
Journal of Cutaneous and Genito-urinary Diseases, The.............. .... 104, 402
Journal of Dermatology, The British.......... 722
Jurisprudence, Notes in Medical............... 27

Kammerer, F. A Case of Arterio-venous Aneurysm of the Upper Extremity............... 173
Katzenbach, W. H. Rheumatic Fever; Pericarditis; Pneumonia; Hyperpyrexia; Death.................................. .. 652
Kelly, H. A. My Fourth Cæsarean Section 500
Kelly, J. E. Kochism in Genito-urinary Disease 554
Keloid. 284
Kelsey, C. B. On Ulcerative Disease of the Upper Rectum and Sigmoid Flexure........... 733
Kennedy, J. Heredity as a Factor in Renal Pathology............. 335
Keratitis, The Patellar Tendon Reflex in Sixty-two Cases of Interstitial.................... 379
Kidney, Cancer of the..................... 21, 79
Kidney, Wandering............................ 385
Kisch, E. H. The Waters of Marienbad (Bohemia) in the Treatment of Obesity......... 592
Kloman, W. C. Letter to the Editor........... 489
Kloman, W. C. Some Clinical Observations upon the Use of Ergotole..... 653
Knee and Ankle Diseases, Thomas's Splint in.. 659
Knee Joint, Excision of the................... 493
Knee Joint, Hydrarthrosis of the.............. 405
Knee, Removal of an Osseous Body from the... 135
Knees, Congenital Deformity of the........... 660
Kochism in Genito-urinary Disease............. 554
Koch Liquid, Alleged Equivalents of the....... 45
Koch Treatment at the Post-graduate Hospital.. 74
Kochian Journal, An Exclusively.............. 131
Koch's Fluid, Experimental Research on....... 303
Koch's Fluid, Morphological Findings in the Tissues after Injections of................. 219
Koch's Liquid................................. 255
Koch's Liquid, Tuberculous Joint Disease treated with.......... 169
Koch's Lymph, Some Achievements of......... 98
Koch's Lymph, The Result of an Autopsy in a Case of General Tuberculosis treated with.. 272
Koch's Remedy, A Failure with............... 187
Koplik, H. Letter to the Editor............ ... 132
Koplik, H. The Administration of Sterilized Milk in Dispensaries....................... 123
Kretzschmar, The Death of Dr. Paul H., of Brooklyn. 514
Krug, F. Transperitoneal Hysterorrhaphy; A New Method of Ventral Fixation of the Uterus without Opening the Peritoneal Cavity..................... 11
Kumyss as a Food for Babies.................. 580
Kyphosis 662

Laboratories of the Howard Medical School, The Sears................................ 171
Labor, The Different Anæsthetic Agents used in Natural....... 755
Laceration of the Internal Rectus.............. 379
Lacerations of the Cervix Uteri, The Immediate Repair of 530
Laminectomy for Injury of the Cervical Vertebræ............................ 518
Laminectomy in Pott's Disease................ 494
Laparotomy, A Truss to be Worn after......... 382
Laparotomy, Amputation at the Hip Joint with Preliminary............................... 597
Laparotomy on a Child Ten Hours Old for the Cure of Congenital Umbilical Hernia....... 586
Laparotomy, The Influence of, upon Tuberculosis of the Peritonæum................ 141, 164
Laryngismus Stridulus...................... 242
Laryngitis in Vocalists 427
Larynx, Artificial............................. 223
Larynx, Partial Extirpation of the............ 165
Larynx, Total Extirpation of the........... 165, 223
Lead may become a Nuisance, The Manufacture of White................................ 288
LEADING ARTICLES:
  Aerophagia, Hysterical........... 368
  Arterio-sclerosis, Venous Changes in......... 458
  Association, The Washington Meeting of the American Medical.... 515
  Bacilli which may be present in Tuberculous Sputum, The Actual Number of Tubercle... 721
  Cancer, The Characteristic Organism of...... 102
  Cartilages, Suture of the Costal.............. 43
  Cleanliness, Disease attributed to............ 570
  Development, Certain Neuroses of............ 537
  Diphtheria, Protective Inoculation against.... 128
  Dispensaries; their Uses and Abuses......... 596
  Dispensary Abuse............................ 276
  Epileptic, The State and the................. 156
  Euphorin, or Phenylurethane................. 185
  Gout? Do Birds have 487
  Health Resorts, One of the Dangers of 626
  Heart Disease at Different Altitudes above the Sea, The Relative Frequency of 337
  Hygiene in the United States, The Teaching of.. 337
  Hyperpyrexia following a Minor Operation on the Uterus.............................. 428
  Jews in the United States, The Vital Statistics of the................................. 128
  Knowledge, Short Cuts to.................... 275
  Koch Liquid, The............................ 72
  Koch Treatment of Tuberculosis, German Experience with the....... 401
  Koch Treatment, The......................... 17

PAGE
LEADING ARTICLES :
  Laparotomy Cases, The After-treatment in... 305
  Left-sided and Right-sided Disease........... 16
  Long Life, A Psalm of......................... 750
  Lunatic, A Murderous, and his Responsibility. 218
  Marine-Hospital Service, The Annual Report of the Surgeon-General of the.............. 368
  Missions, The Work of Medical.... 44
  Neoplasms, Polymastia and its Relation to.... 684
  Œsophagus, A Tooth Plate long impacted in the 683
  Paralysis, Surgical Interference in General.. 401
  Perityphlitis, Dr. Lange on.................... 654
  Phenylurethane, Euphorin, or................ 185
  Polymastia and its Relation to Neoplasms.... 684
  Rheumatism, The Microbe of 186
  School for Women, The Opening of the Johns Hopkins Medical............................ 246
  Strychnine in Cardiac Affections, The Effect of............ 428
  Suture of the Costal Cartilages............... 43
  Syphilis, Second Infections with.............. 70
  Tachycardia... 246
  Tachycardia at the Menopause........ 457
  Tachycardia, Essential Paroxysmal........... 504
  Typhoid Fever, The Effects of, upon the Bones and Cartilages.. 536
  Venesection, Modern........................... 219
Lectures, the Mutter.... 571
Legislation, The State Society's Committee on.. 157
Legitimacy, A Question of........................ 412
Leidy Brothers, The. 538
Leidy, The late Dr. Joseph.................. ... 760
Lenses, "Protected" Trial....................... 627
Leprosy, Ocular.................................... 349
Lesions, Hot Water in the Treatment of Surgical..................... 244
Leszynsky, W. M. The Use of Atropine in the Treatment of Localized Muscular Spasm... 295
Leucæmia with Noteworthy Changes in the Nasal Mucous Membrane................... 108
Leucocythæmia, Myelogenous.................. 636
Lewis, F. N. Letter to the Editor..... 222
Lichen Planus in Neuropathic Subjects......... 285
Life-saving Methods in Still-births 23
Ligament, The Suspensory, of the Crystalline Lens and the Lens Capsule... 722
Ligature of the Carotid and Subclavian Arteries for Aneurysm at the Root of the Neck. 291, 313
Liggett, G. S. Arizona : a Winter Climate for Consumptives..... 367
Lipoma of the Colon.............................. 467
Lipoma of the Right Eye, Subconjunctival..... 380
Literature, The Doctor in General.. 221
Litholapaxy...... 722
Liver, Enormous Enlargement of the........... 133
Liver, The Origin of the....... 227
Loebinger, H. J. Description of a "Pelveoscope".. 399
Loebinger, H. J. Letter to the Editor....... .. 657
Loebinger, H. J. Pertaining to the Treatment of Tuberculosis Pulmonalis through the Medium of a Local Therapy..................... 149
London, Letters from..................... 217, 485
Long, J. W. Letter to the Editor.............. 461
Lunatics, The Liability for the Care of 171
Lungs, An Operation for reaching the Root of the, from Behind.......................... 686
Lungs, A Study of the Anatomy of the, as shown by Corrosion.................. 257
Lungs, Terpene Iodide in Acute Diseases of the. 184
Lupus.... 543
Lupus, The Treatment of, by Koch's Method... 79
Luxation of the Lower Jaw, Recurring......... 223
Luxation of the Patella, Congenital............ 223

Mabbott, J. M. The Theory and Practice of Infant Feeding............................ 446
MacPherson, J. D. Letter to the Editor........ 190
Malaria as a Cause of Sciatica.................. 338
Malaria in New York City, A Contribution to the Study of................................ 490
Malformation of the Auricle..................... 107
Malignant Growths, The Treatment of Inoperable, with the Aniline Dyes.................. 435
Mammæ in the Axillæ, Supernumerary......... 547
Manganese in Tuberculosis, Gold and.......... 220
Manley, T. H. Fractures at the Elbow Joint 740, 753
MARINE-HOSPITAL SERVICE, CHANGES OF MEDICAL OFFICERS OF THE :
  Austin, H. W....... .... 189, 371, 489, 572, 629
  Bailhache, P. H 189, 489
  Banks, C. E. 371
  Bratton, W. D................................ 629
  Brown, B. W.......................... 572, 629
  Carrington, P. M.................. 189, 572, 629
  Carter, H. R.................................. 19
  Cofer, L. E.................................... 308
  Condict, A. W................................ 629
  Eager, J. M.. 308
  Fessenden, C. S. D.......................... 686
  Gassaway, J. M 461, 489
  Geddings, H. D................. 19, 189, 489, 629
  Godfrey, John.................... 371, 461, 572
  Goodwin, H. T....................... 308, 489
  Groenevelt, J. F.................. 189, 489, 686
  Guitéras, J. M 686
  Houghton, E. R............................... 371
  Irwin, Fairfax................ 19, 461, 572, 686
  Kinyoun, J. J.......................... 19, 189
  Long, W. H......... .... 19, 371
  Magruder, G. M............... 189, 489, 629, 686
  McIntosh, W. P................................ 489
MARINE-HOSPITAL SERVICE, CHANGES OF MEDICAL OFFICERS OF THE :
  Mead, F. W.................................... 686
  Murray, R. D.................................. 19
  Peckham, C. T................................ 461
  Perry, J. C.................................... 489
  Perry, T. B.................... 308, 371, 489
  Pettus, W. J 189, 308
  Purviance, George........ .... 189, 461
  Rosenau, M. J.................................. 489
  Sawtelle, H. W...................... 189, 461
  Stimpson, W. G........... .... 189, 461, 572
  Stoner, G. W.... 489
  Vansant, John....................... 489, 686
  Vaughan, G. T.... 489
  Wasdin, Eugene....................... 19, 461
  Woodward, R. M............................ . 489
  Wyman, Walter....................... 19, 461
  Young, G. B................................... 686
Markoe, T. M. Ligature of the Carotid and Subclavian Arteries for Aneurysm at the Root of the Neck.......................... 291, 313
Marine-Hospital Service, The 655
Marriages in India, Early........................ 333
Martin, of the Navy, The late Dr.............. 158
Massage of the Stomach......................... 338
Mastoid Cells of both Ears, Implication of the, in a Case of Chronic Purulent Otitis Media.. 68
Materialism ? Does Medical Science tend to.... 29
Materia Medica, Shoemaker's.................. 104
Maxillæ, Excision of the Superior.............. 162
Maxson, E. R. The Duration of Diseased Conditions.. 397
"McBurney Point," The......................... 452
McCahey, P. Letters to the Editor....... 723, 752
McElderry, H. A Case of Perityphlitic Abscess. 585
McIntosh, W. P. Hot Water in the Treatment of Surgical Lesions........................ 244
McIntosh, W. P. The Comparative Frequency of Organic Stricture of the Urethra in the White and Colored Races............ 560
Measles, Cold Baths in........................... 316
Measles, Relapses in............................. 579
Medical Annals, The Albany.................... 249
Medical Bill, The New New York.... 432
Medical Bills, The Pending New York......... 429
Medical Examiner, The New York............. 429
Medical Expert, Suit for Fees as a............. 288
Medical Licensing Boards, A National Organization of State... 429
Medical Men and the Secular Press............. 369
Medical Monthly, The New England........... 249
Medical News, The, of Philadelphia............ 684
Medical Women in India.......... 515
Medical Work, International........... 187
Medicine, A Literary Course for Students of.... 722
Medicine, Reports on General................. 520
Medicine, The Phonograph in................... 440
Medicines ? Shall Physicians dispense their own.. 687
Melancholia, The Diagnosis of Incipient....... 497
Melanoderma of Nervous Origin........ 285
Meningitis, Neuritis of the Acoustic Nerve due to.. 110
Meningitis, The Microbe of Epidemic Cerebrospinal.. 248
Meningitis, The Treatment of................... 428
Menorrhagia, The Treatment of, by the Chemical Galvano-caustic Action of the Positive Pole... 342
Menstruation, A New Theory of........... 93, 273
Mental Anguish and Damages.................. 287
Mentha Pulegium................................. 104
Menthol in the Treatment of the Vomiting of Pregnancy 248
Merenna, G. On the Ætiology of Influenza.... 419
Messersmith, The Death of Dr. John S., of the Navy.......... 221
Methyl-violet and Safranin as Antiseptics 608
Metrorrhagia, The Treatment of, by the Chemical Galvano-caustic Action of the Positive Pole 342
Mettler, L. H. A Clinical Study of Cascara Sagrada.. 210
Microbe of Pneumonia, New Forms of the...... 306
Microbes in the Stomach......................... 70
Microcephalism, Craniectomy for.............. 72
Micro-organisms in Otitis Media Diphtheritica, The Part taken by............................ 109
Microphthalmia with Cysts of the Globe........ 379
Microscopes, The American Duty on.... 275
Midwives, Septic................................. 18
Migraine and Headache from Eye Strain....... 193
Milhau, The Death of General John J.......... 571
Milk as an Emulsifier, Condensed.............. 653
Milk in Dispensaries, The Administration of Sterilized 123
Milk, Sterilized 719
Milk, Sterilized, for the Children of the Poor... 599
Milk, Sterilized, from a Practical Standpoint... 462
Milk, The Adulteration of, with Oil............ 143
Milk, Tubercular Infection from...... 68
Millard, H. B. On Albumina Minima, Transient and Dietetic....................................... 525
Missionary and his Scalpel, A.................. 45
Mobilization of the Stapes...................... 109
Mollin, a New Ointment Base.................. 157
Monster, A Symelian............................ 227
Monstrosity, An Acranial........................ 54
Morphine by the Nostrils, The Administration of... 129
Morphine Habit treated by the Gradual Method. 276
Morris, R. T. Wandering Kidney. Nephrorrhaphy.. 385
Mortality in Cities in the United States.... 112, 172, 288, 320, 352, 384, 411, 440, 524, 552, 661
Mortality in the United States. 760
Mortality of New York in 1890................. 44
Morton, W. J. Note on a New Method of Cataphoresis 473
Munro, W. L. A Supposed Sarcoma of the Upper Jaw that proved to be an Enchondroma. 584
Murphy, The Death of Dr. Daniel, of Brooklyn. 430
Muscæ Volitantes................................ 571
Muscles, Insufficiency of the Oblique.......... 381
Museum for the Benefit of the Industrial Classes, A Hygienic...................................... 18
Myers, J. F. A Case of Extensive Injury of the Abdomen 14
Myers, O. M. Cactina : a New and Valuable Cardiac Stimulant.......................... . 681
Myomata Uteri, Operations for................. 139
Myomectomy, A Case of........................ 301
Myopia, Improvement in the Vision of, by Treatment without Glasses.................. 455
Myopia, The Dependence of, on the Structure of the Orbit..................................... 347
Myotonia, Congenital 605
Myxœdema, Grafting the Thyreoid for 68
Myxo-sarcoma of the Naso-pharynx, Simultaneous Ligation of both External Carotids for . 436

Naphthol, Alpha and Beta....................... 73
Nasal Bone Sawing, Vertical 227
Nasal Region, Removal of a Large Piece of Iron from the...... 82
NAVY, CHANGES OF MEDICAL OFFICERS OF THE :
  Alfred, A. R.................................... 723
  Ames, Howard E 430
  Anzal, Ernest W 219, 339
  Arnold, W. F 250
  Ashbridge, Richard.................... 104, 250
  Atlee, L. W............................ 572, 598
  Beardsley, Grove S............................ 489
  Berryhill, T. A................ .... 189, 430
  Blackwood, N. J 250
  Bradley, G. P.................................. 572
  Braisted, W. C................................. 250
  Bright, George A............. .... 656, 752
  Brownell, Carl De Wolf............ 431, 572, 598
  Cabell, A. G.................................... 104
  Clark, J. H....... 431
  Cleborne, C. J 371
  Cordeiro, F. J. B............................. .. 572
  Craig, T. C..................................... 250
  Crandall, Rand P...................... 189, 431
  Curtis, L. W.................................... 598
  Dean, R. C..................................... 104
  Decker, Corbin J.............................. 19
  Dickson, S. H.................................. 572
  Evans, Sheldon G 19, 339
  Fitts, H. B.... 250
  Gaines, James H 339, 371
  Gravatt, C. U.................................. 686
  Griffith, S. H.................................. 489
  Harris, H. N. T 339, 430
  Herndon, C. G............................. ... 516
  Hoehling, A. A............... ..... 431, 572, 723
  Hord, W. T.. 104
  Jones, W. H........................... 189, 572
  Keeney, James F 656
  Kershner, Edward............................ 516
  Leach, Philip........................... 572, 598
  Lumsden, G. P................................ 104
  Lung, George A................................ 572
  Mackie, B. S 598
  Martin, William................................ 430
  McCormick, A. M. D.................. 104
  McMurtrie, D.................................. 516
  Means, V. C. B................................ 656
  North, James H., Jr.... ... . 250, 339, 430
  Norton, O. D................................... 572
  Ogden, F. N 430
  Penrose, T. N.................................. 371
  Persons, Remus C.................. 131
  Pickerell, George McC............. 104, 339, 430
  Pigott, M. R....... 752
  Price, A. F.................... 339
  Rogers, Franklin....... 686
  Rush, C. H. 430
  Rush, W. H 104, 572, 598
  Ruth, M. L................... 104, 339, 371, 752
  Steele, John M................... 371, 572, 752
  Stephenson, F. B 430
  Stoughton, James............................. 723
  Streets, T. H........................... 598, 723
  Taylor, J. Y.................................... 104
  Walton, T. C................................... 572
  Wells, Howard................................. 752
  White, C. H........................... 430, 431
  White, Stephen S 430
  Young, L. L. S......... 723
Necrosis of the Ribs complicating Pott's Disease.. 160
Needle, A, that traveled from the Buttocks to the Pyloric Region.... 249
Needles from Rusting, How to keep.... 723
Needles, Improved Surgical 140
Needles, The Extraction of Broken............. 635
Neoplasm, Intracranial, with Localizing Eye Symptoms 381
Neoplasms, The Treatment of Malignant....... 727
Nephrectomy 21
Nephrectomy, Abdominal...................... 312
Nephrectomy, Report of Five Cases of 215
Nephrectomy, Three Cases of................... 492
Nephritis following Varicella.................. 277
Nephrolithotomy, Double 78

PAGE
Nephrolithotomy for Calculus.................. 77
Nephrorrhaphy 385
Nephrotomy, Lumbar 573
Nephrydrosis of Unusual Origin................ 729
Nerve, A Case of Injury to the Left Supra-orbital. 621
Nerve Disorders, The Treatment of Paroxysmal. 523
Neuralgia, Lingual, of Malarial Origin with Ulceration of the Tongue. 402
Neuralgia, Removal of the Gasserian Ganglion for Severe. 537
Neuralgia. Removal of the Supra-orbital Nerve for Obstinate.. 433
Neurasthenics, The Asthenopia of.... 379
Neurectomy for Spasmodic Torticollis.......... 466
Neuritis of the Acoustic Nerve due to Meningitis 110
Neuroglia-stroma of the Central Nervous System, The.................................. 226
Neurology, Reports on 603
Neuromimesis.................................. 661
Neuroses," "Traumatic......................... 552
Newly Born, Artificial Respiration in the....... 54
Newman, D. C. Letter to the Editor........... 724
New York in 1890, The Mortality of............ 44
New York, Infectious Diseases in...... 18, 104, 131, 157, 188, 221, 249, 278, 307, 339, 370, 403, 429, 461, 488, 516, 538, 598, 628, 655, 685
New York Medical Bill, The New............... 382
New York, Medical Legislation in.............. 369
New York State in 1890, The Vital Statistics of. 157
Nitrogen Monoxide, Therapeutic Experiments with... 266
Nitroglycerin in the Treatment of Angina Pectoris and Asthma, Hypodermic Injections of. 278
Nomenclature in Orthopædic Surgery, Uniform. 168
Nomenclature, Medical, and the "Spirit of the Language"............................... 759
Northrup, W. P. Tuberculosis in Children; Primary Infection in Bronchial Lymph Nodes........................... 201, 224
Nose and Throat, Notes on Aristol in the Treatment of the Diseases of the............... 591
Nostrils, The Administration of Morphine by the.................................... 129
Nostrums in Italy, American................... 104
Notes, Medico-legal................. 170, 287, 411
Nu Sigma Nu, The............................. 221
Nystagmus, Blinding as a Cause of............. 347

Obesity, A Simple Regimen in................... 44
Obesity, The Waters of Marienbad (Bohemia) in the Treatment of.......................... 592
OBITUARIES :
Barker, Fordyce, M. D., LL. D................. 656
OBITUARY NOTES :
Obstetrics, Reports on..................... 137, 755
Obstruction of the Cystic Duct................ 252
Occipital Bone, A Defect in the 729
Œsophagitis Exfoliativa...... 467
Œsophagus, A Tube lost in the................. 493
Œsophagus, Fibrous Stricture of the............ 82
Œsophagus, Stricture of the............... 289, 376
Oil, The Adulteration of Milk with............ 143
Onabaine, The Local Anæsthetic Action of..... 380
Ontology, Studies in 306
Oophorectomy for Osteomalacia................. 73
Operations, The Curative Effect of, *per se*....... 574
Ophthalmia, Sympathetic 380
Ophthalmic Work, Helps in Practical........... 349
Ophthalmology, Reports on 344, 378
Ophthalmometer, Javal's....................... 222
Optic Nerve in the Region of the Optic Canal, The Shape and Size of the Intervaginal Space of the 346
Optic Nerve, Resection of the................. 380
Optic Nerve, Tumors of the 346
Optician, The Rôle of the 427
Orexin on Assimilation, The Effects of......... 618
Orexin, The Administration of................. 218
Organisms, Typhoid............................ 758
Orthopædic Surgery, Dr. Shaffer's Lectures on.. 130
Ossification of the Auricle.................... 107
Osteitis, Excision of the Hip for Tubercular.... 404
Osteoma of the Os Pubis....................... 164
Osteomalacia, Oophorectomy for................ 73
Osteomalacia, The Nature and Treatment of Puerperal 139
Osteotomy, Cuneiform.......................... 312
Otitis Externa Hæmorrhagica................... 106
Otitis Media, Abscess of the Brain following Purulent...... 110
Otitis Media Diphtheritica, The Part taken by Micro-organisms in........................ 109
Otitis Media due to la Grippe................. 109
Otitis Media, Implication of the Mastoid Cells of both Ears in a Case of Chronic Purulent. 68
Otitis Media, Subdural Abscess following Purulent.. 110
Otology, Reports on............ 106
Otorrhœa, Long-continued...................... 108
Ova within a Uterine Foster-mother, The Transplantation and Growth of Mammalian...... 248
Ovary, Hæmatoma of the........................ 250
Ovary, Rapid Malignant Degeneration of the... 342
Ovary, The Origin of Epithelial Tumors of the.. 199
Overgrowth of the Skull following the Distribution of the Fifth Nerve, The Form of....... 225
Oxygen administered by the Rectum and by Subcutaneous Injection 186

Pachymeningitis Interna Hæmorrhagica........ 48
Pain in Amputated Limbs as a Basis for Damages.............. 171
Palatinoids 45

PAGE
Palsies, Contributions to the Pathology of Infantile Cerebral............................ 503
Paludal Poisoning, The Urine in................ 73
Panophthalmitis, The Pathological Anatomy of.. 381
Papillitis.................... 205
Paralysis, Alcoholic.......................... 605
Paralysis, Diphtheritic....................... 578
Paralysis in Brothers, Three Cases of Pseudohypertrophic..................................... 579
Paralysis in Children, Spinal 628
Paralysis occurring during the Course of Pneumonia in Children.......................... 579
Paralysis of the Facial and Auditory Nerves due to Hæmorrhage into the Ear................ 571
Paralysis of Ocular Muscles in Congenital Syphilis 344
Paralysis, The Pathology of Acute Ascending (Landry's)..................... 609, 632
Paralysis, The Treatment of Infantile.......... 459
Paramyoclonus Multiplex 604
Paraplegia, A Case of Spastic................. 375
Parasites and Pernicious Anæmia 74
Paresis of the Femoral Adductors from Poliomyelitis....................................... 669
Paris, Letter from............................. 456
Paris, Medical Practitioners in 533
Parke, J. R. Does Medical Science tend to Materialism ?............................ 29
Parkes, The Death of Dr. Charles T., of Chicago 403
Parrish, The late Dr. Joseph, of Burlington, N. J................................. 188
Parsons, The late Dr. Ralph A., of Boston...... 580
Parturition in a Primipara without the Knowledge of the Parturient....................... 755
Parturition, Incision of the Os Uteri during..... 755
Patella, Congenital Luxation of the............ 223
Pelveoscope and Gastrodiaphan................. 657
"Pelveoscope," Description of a.. 399
Pelvic Organs, Observations on the Changes in Size and Consistence of the Female........ 758
Pelvis, A Case of Cæsarean Section made necessary by a Contracted....................... 297
Pelvis, Contracted, managed by a Restricted Diet 276
Pennsylvania, The University of................ 74
Percussion as a Method of Diagnosis, The Value of Auscultatory 709
Pericarditis 652
Pericarditis in Young Children................ 315
Perichondritis of the Auricle, Idiopathic 107
Perichondritis Sero-purulenta.................. 107
Periostitis, Primary Mastoid................... 107
Peritonæum, The Influence of Laparotomy upon Tuberculosis of the 141, 164
Peritonitis following the Use of Copious Enemata in Acute Dysentery, A Case of Acute Diffuse.......... 41
Peritonitis, Operative Procedures in Acute General Suppurative 387
Peritonitis, Sudden Fatal...................... 133
Perityphlitis originating in Syphilitic Ulceration of the Intestine.......................... 133
Perityphlitis, Some Cases of..................... 7
Perry, The Death of Dr. Gideon B., of Brooklyn. 46
Persons Seriously Injured, The Immediate Care of... 607
Pessaries ; their Uses and Abuses........... ... 548
Pertussis, Bromoform in............. 315
Peterson, F. A Second Note upon Homonymous Hemiopic Hallucinations....................... 121
Peterson, F. Notes on some Southern Health Resorts 677
Pettus. W. J. History of Five Cases of Beriberi.. 588
Pharmacists, Women............ 751
Pharmacopœia, Additions to the British........ 129
Pharynx, Skin Flaps in the Formation of a New. 248
Phillips, D. A Preliminary Report on the Treatment of Atrophic Rhinitis (Dry Catarrh) with Ichthyol.................................. 563
Phillips, The Death of Dr. David............... 656
Phillips, W. C. Notes on Aristol in the Treatment of the Diseases of the Nose and Throat. 591
Phosphorus in Rickets, The Action of.......... 315
Photophobia, Anæsthesia of the Gasserian Ganglion to relieve Obstinate................ 103
Phthisis, etc.................................. 224
Phthisis, Inhalations in the Treatment of....... 694
Phthisis, The Ætiology and Pathology of 254
Phthisis, The Pathology and Treatment of the Pyrexia of......................... 520
Phthisis, The Therapeutics of Pulmonary....... 255
Physical Training as a Means of Mental Improvement....................................... 606
Pilocarpine, The Treatment of Retinal Detachment by Injections of, in the Recumbent Position... 333
Placenta, Cystic Degeneration of the............ 252
Placenta Prævia, Ergotole in................... 411
Plaster, A Mercurial Caoutchouc............... 228
Plates for Intestinal Anastomosis........... ... 47
Pneumonia...................................... 652
Pneumonia in Children, Croupous........... ... 277
Pneumonia in Children, Paralysis occurring during the Course of 579
Pneumonia, Lobar, with the Formation of New Connective Tissue.......................... 254
Pneumonia, New Forms of the Microbe of...... 306
Pneumonia, Salol in........................... 126
Pneumonia, The Treatment of.................. 521
Poisoning, Autochthonous...................... 247
Poisoning by Male Fern........................ 316

PAGE
Poliklinik. The Deutsche 751
Poliomyelitis, Paresis of the Femoral Adductors from........................... 660
Polyclinic and College for Graduates in Medicine, The Philadelphia...................... 751
Polyclinic, The New York................. 461, 598
Polyclinic, The Philadelphia 220, 333, 369, 571
Polypi, An Operation for Naso-pharyngeal...... 728
Polyps of the Male Urethra.................... 533
Pomeroy, O. D. On Some Points in the Pathogenesis of Aural Vertigo 716
Pomeroy, O. D. The Treatment of Retinal Detachment by Injections of Pilocarpine in the Recumbent Position..... 333
Popliteal Space, Hygroma of the 314
Pork in Germany, American..................... 170
Post-graduate, The....... 18
Potassium in Urticaria, Iodide of.............. 285
Potter, W. W. How should Girls be Educated ? 321
Pott's Disease, Necrosis of the Ribs complicating.......... 160
Pott's Disease, The Importance of Thorough Examination in Suspected............ 405
Pott's Disease, The Surgical Treatment of...... 487
Pott's Disease, Laminectomy in................. 494
Practice in the British Dependencies, Qualifications for 724
Practitioners in the British Colonies, Foreign Medical 439
Pregnancy, Accidental Hæmorrhage during the Last Months of...... 515
Pregnancy, Carcinoma of the Cervix complicating 757
Pregnancy, Ectopic........... 341
Pregnancy, Fibromata of the Uterus as Complications during..... 137
Pregnancy, Five Cases of Ectopic.............. 757
Pregnancy, Menthol in the Treatment of the Vomiting of..................................... 248
Pregnancy, The Influence of Syphilitic Infection during 137
Prescribing, Amateur, and its Results.......... 427
Prize of the Royal College of Physicians of Edinburgh, The Parkin.................... 411
Prize, The County Medical Society's 629
Prize, The Merritt H. Cash...................... 64
Prize, The Warren Triennial................... 228
Progress, Medical.............................. 242
Prostate, Fibro-glandular Hyperplasia of the.... 663
Prostate, Removal of Hypertrophied........... 222
Prudden, T. M. Studies on the Action of Dead Bacteria in the Living Body 637
Prudden, T. M., and Hodenpyl, E. Studies on the Action of Dead Bacteria in the Living Body... 697
Prurigo, Clinical and Pathological Observations on............. 1
Prurigo, Dr. Taylor's and Dr. Van Gieson's Article on....................................... 46
Ptosis, Isolated Bilateral....................... 349
Pulse, The Fœtal.............. 486
Purdy, C. W. Examination of the Urine for Life Insurance......... 229
Purpura in Children............. 316
Pus in the Pericardium......................... 467
Pylorectomy with Gastro-enterostomy for Cancer of the Stomach........................... 52
Pylorus, Gastro-enterostomy rather than Resection for Cancer of the........................ 53
Pyoctanin in Eye Diseases...................... 129
Pyonephrosis, Calculous............ 312
Pyrexia of Phthisis, The Pathology and Treatment of the...... 520

Quackery in Italy, The Suppression of 524

Radius, Congenital Absence of the............. 728
Rafferty, O. A Report on Typhoid Fever at Fort Sam Houston, Texas...... 298
Ranney, A. L. Some Facts relating to the Causes and Cure of Sleeplessness........... 356
Rash, A Rare Antipyrine....................... 530
Raynaud's Disease, A Contribution to the Diagnosis of.. 143
Rectum and Sigmoid Flexure, On Ulcerative Disease of the Upper........................ 733
Rectum. Resection of the, with Plastic Transplantation of the Anal Portion.............. 309
Rectum, Simultaneous Excision of the, and Extirpation of an Intraligamentous Ovarian Tumor, etc 310
Rectus, Laceration of the Internal.............. 379
Reed, C. A. L. On the Surgical Treatment of Ectopic Gestation.......................... 650
Refraction by the Illumination Test, The Determination of..................................... 349
Regimen in Obesity, A Simple.................. 44
Reimplantation of Bone in Trephining, Remarks on the.................................. ... 553
Reminiscences.................................. 736
Renal Pathology, Heredity as a Factor in....... 335
Reporter, The Medical and Surgical............ 516
Resection of the Astragalo-scaphoid Articulation for Aggravated Flat-foot.................. 404
Resorcin in Rodent Ulcer........... 683
Respiration in the Newly Born, Artificial....... 54
Respiration, Is the Cause of. the Venosity of the Blood and Tissue Fluid in the Respiratory Center of the Medulla Oblongata ?......... 641
Retina, Contribution to the Anatomical and Clinical Study of Glioma of the................. 348
Retina, Detachment of the, and its Treatment.. 379
Retina, Nine Cases of Detachment of the, treated by Operation............................ 326

PAGE
Retinal Detachment, The Treatment of, by Injections of Pilocarpine in the Recumbent Position.... 333
Retinal Circulation, Obstructed.... 344
Retinal Detachment, A Contribution to the Study of the Treatment of.... 330
Retinal Elements, A Suggestion as to the Function of Some of the.... 345
Retroflexion of the Uterus, Indications for the Treatment of.... 139
Reyher, The late Dr. Charles, of St. Petersburg. 403
Rhein, M. L. Letter to the Editor.... 75
Rheumatism, Changes of the Blood in Acute Articular.... 522
Rheumatism, Stiffness of the Joints from.... 405
Rheumatism, The Local Use of Oil of Wintergreen in.... 515
Rheumatism, The Relations of Chorea to.... 134
Rhinitis, A Preliminary Report on the Treatment of Atrophic, with Ichthyol.... 563
Rhinoplasty.... 466
Rice, C. C. The Condition known as "Chorditis Tuberosa".... 85, 104
Richards, H. Implication of the Mastoid Cells of Both Ears in a Case of Chronic Purulent Otitis Media.... 68
Rickets, The Action of Phosphorus in.... 315
Rickets, The Ætiology of.... 317
Ridlon, J. Supracotyloid Dislocation.... 589
Rigidity in a Pedestrian, Paraplegic.... 306
Robinson, F. B. Automatic Menstrual Ganglia. A New Theory of Menstruation.... 93, 273
Robinson, F. B. Five Cases of Axial Rotation of Ovarian Tumors.... 565
Robinson, F. B. Letter to the Editor.... 47
Rockwell, A. D. Physical Hygiene and the Bicycle.... 593
Roe, J. O. Stricture of the Œsophagus from Interstitial Thickening of its Walls; a Fibroid Hypertrophy.... 289, 376
Rohrbaugh, E. P. Compound Comminuted Fracture of the Skull, with Loss of Brain Substance.... 535
Roosa, D. B. St. J. Constitutional Conditions combined with Ametropia the Cause of Asthenopia.... 353
Roosevelt, J. W. A Study of the Anatomy of the Lungs, as shown by Corrosion, considered in Relation to Pulmonary Phthisis.... 257
Roosevelt, J. W. Letter to the Editor.... 599
Ross, J. F. W. An Inquiry into our Present Knowledge of Myomatous Tumors.... 469
Rubber Stamps and Accurate Records.... 26
Rupture of the Sheath of the Adductor Femoris Longus.... 729

Sabre-wound of the Skull and Brain.... 82
Sachs, B. Contributions to the Pathology of Infantile Cerebral Palsies.... 503
Sacrum, Removal of the Lower Part of the.... 310
Safranin, Methyl-violet and, as Antiseptics.... 608
Salol for Infants, The Dose of.... 500
Salol in Malarial Diarrhœa.... 316
Salol in Pneumonia.... 126
Sanitarium, Dr. Ludwig Weiss's.... 488
Sanitary Subjects, Circulars on.... 74
Santa, P. de P. Erythroxylon Coca: Therapeutic, Hygienic.... 748
Sarcoma, A Supposed, of the Upper Jaw, that proved to be an Enchondroma.... 584
Sarcoma of the Finger.... 690
Sarcoma of the Iris in a Child aged Two Years.. 346
Sarcoma of the Sheath of the Optic Nerve.... 82
Sarcoma of the Skin, Multiple Pigmented.... 287
Scalpel, A Missionary and his.... 45
Scarlatina, Antisepsis in.... 318
Scarlet Fever, A Vesicular Eruption in.... 369
Schmid, H. E. Some Personal Observations upon Hypnotism and its Employment in Certain Diseased Conditions.... 59
School, A Four Years' Course at the Harvard Medical.... 693
School and Hospital, The New York Post-graduate Medical.... 598
School for Male Nurses, The Bellevue Hospital Training.... 339
School of Medicine, The Kentucky.... 598
Schweinitz, G. E. de. A Case of Homonymous Hemiopic Hallucinations, with Lesion of the Right Optic Tract.... 514
Sciatica, Malaria as a Cause of.... 338
Scientific Research in England, An Obstacle to. 696
Scissor-forceps for the Removal of Adenoid Tissue from the Vault of the Pharynx.... 410
Scissors with Safety-bars, Raynor's Naso-pharyngeal.... 27
Sclerodermia, Electrolysis in.... 287
Scoliosis of Childhood, Spinal-cord Lesions in the 606
Scrofuloderma, A Case of.... 595
Scrotum, Avulsion of the.... 103
Seborrhœa and Scaly Eczema of the Scalp, An Ointment for.... 370
Secrecy, A Curious Violation of Professional... 722
Section, Suprapubic.... 309
Sensations, The Pseudo-color.... 109
Septicæmia, A Case of Fatal.... 184
Septicæmia, The Eliminative Treatment of Puerperal.... 460
Sherrill, J. G. A Peculiar Arrangement of the Subclavian Artery and its Branches.... 721
Shoulder Presentation, Forceps Delivery in.... 547
Shufeldt, R. W. Medical and other Opinions upon the Poisonous Nature of the Bite of the Heloderma.... 581
Singing, The Action of the Glottis in.... 113
Skiascopy, with a Description of an Apparatus for its Ready Employment.... 350
Skull, Fracture of the Base of the.... 466
Sleep, The Cause of.... 571
Sleeplessness, Some Facts relating to the Causes and Cure of.... 356
Slipper, The Obstetric.... 20
Snake-bite and Cholera Cure, A Note on the Probable Discovery of.... 350
Soap as a Remedy for Mosquito Bites.... 185
Societies for 1891, Meetings of Medical.... 84
SOCIETIES, MEETINGS OF:
  Academy of Medicine in Ireland, Royal. Section in Surgery.... 79
  Academy of Medicine, New York.... 23, 281, 339, 490, 543, 573, 632, 688
  Academy of Medicine, New York. Section in General Medicine.... 224, 575, 689
  Academy of Medicine, New York. Section in Obstetrics and Gynæcology... 341, 436, 546, 576
  Academy of Medicine, New York. Section in Orthopædic Surgery... 25, 166, 404, 493, 544, 659
  Academy of Medicine, New York. Section in Pædiatrics.... 54, 463, 633
  Academy of Medicine, New York. Section in Surgery.... 52, 222, 492, 573. 690
  Association, American Laryngological... 104, 376
  Association, American Medical.... 539
  Association, Harlem Medical.... 753
  Society, New York Neurological.... 48, 165, 279, 375, 632, 658, 724
  Society, New York Surgical.... 20, 77, 162, 252, 308, 312, 373, 433, 517, 630
  Society of Montreal, Medico-chirurgical.... 133, 134, 250
  Society of the Alumni of Bellevue Hospital... 50
  Society of the State of New York, Medical... 159, 193, 253
  Society, Philadelphia County Medical.... 406
Society of Brooklyn, The Medical Microscopical 131, 278
Society of Brooklyn, The Red Cross.... 131
Society of Central Illinois, The District Medical.... 516
Society of Chicago, The Medico-legal.... 751
Society of New York City, The Harvard Medical.... 221, 249, 403
Society of the Alumni of Bellevue Hospital.... 684
Society of the Alumni of Charity Hospital. 221, 685
Society of the County of Erie, The Medical.... 131
Society of the State of New York, The Medical. 46, 158
Society, The Brooklyn Surgical.... 151, 221
Society, The Centennial of the Connecticut State Medical.... 104
Society, The Cincinnati Obstetrical.... 403
Society, The Florida State Medical.... 403
Society, The Iowa State Medical.... 403
Society, The Massachusetts Medical.... 664
Society, The Medical, of the County of Erie on Pending Medical Bills.... 429
Society, The Medico-legal.... 538
Society, The Missouri State Medical.... 571
Society, The New Hampshire Medical.... 655
Society, The New York Clinical.... 516
Society, The New York Dermatological.... 629
Society, The New York Pathological.... 74
Society, The New York Ophthalmological.... 188
Society, The Ohio State Medical.... 685
Society, The Orange Mountain Medical.... 221
Society, The South Carolina Medical.... 430
Society, The Washington State Medical.... 685
Society, The West End Medical.... 188
Sodium, Camphoric Acid and Tellurate of, as Antidrotics.... 370
Sodium in Epilepsy, Biborate of.... 315
Sodium Salicylate in Chorea.... 316
Solow, J. The Consequences of an Experiment with Hypnotism.... 300
Spasm, The Use of Atropine in the Treatment of Localized Muscular.... 295
Spectacle-frames, The Construction and Adaptation of.... 406
Speculum with Attachment for Use in the Sims Position, Vaginal.... 140
Speech Center.... 307
Spina Bifida.... 54
Spina Bifida, Excision of the Sac in.... 428
Spinal Cord, Injuries of the Cervical.... 375
Spine, The Back in Railway.... 658
Spleen, Enlargement of the, in the Malarial Diseases of Children.... 601
Spleen, Multiple.... 226
Splint, A New Traumatic Traction Hip.... 546
Squint, The Pathogenesis of Divergent and Convergent.... 380
Squint, The Theory of.... 348
Stapes, Mobilization of the.... 109
Stearns, H. S. The Results of an Autopsy in a Case of General Tuberculosis treated with Koch's "Lymph".... 272
Stevens, The Death of Dr. Henry W., of Brooklyn 249
Stickler, J. W. Letter to the Editor.... 20
Stickler, J. W. Some Achievements of Koch's Lymph.... 98
Still-births, Life-saving Methods in.... 23
Stimulant, Cactina: a New and Valuable Cardiac.... 681
Stomach, Hour-glass Malformation of the.... 632
Stomach, Massage of the.... 338
Stomach, Microbes in the.... 70
Stomach, Pylorectomy with Gastro-enterostomy for Cancer of the.... 52
Stomach, Round Ulcer of the, causing Fatal Perforation.... 251
Stomach, The Diagnosis of Motor Insufficiency of the.... 523
Stomach, Ulceration of the.... 519
Stomach-washing in Children, The Therapeutic Effect of.... 318
Stomach-washing in the Gastric Disorders of Infants.... 578
Stone in the Bladder.... 425
Stone in the Bladder, Some Clinical Features of.... 311
Stone-kidney, Pyonephrotic.... 21
Strabismus, Neuropathic.... 380
Stricture, Holt's Operation in the Treatment of Urethral.... 191
Stricture of the Œsophagus.... 289, 376
Stricture of the Œsophagus, Fibrous.... 82
Stricture of the Urethra, The Comparative Frequency of Organic, in the White and Colored Races.... 560
Strophanthine, The Local Anæsthetic Action of. 380
Strychnine in a Failing Circulation, Digitalis and.... 31
Sulphonal, A Case of Trismus Neonatorum treated with.... 468
Sulphonal, A New Mode of administering.... 187
Superextension after Tenotomy.... 660
Suppositories, The Use of.... 308
Suppuration, Micro-organisms in Acute Middle-ear.... 108
Surgeons of the National Guard, Notice to.... 486
Surgeons, The Relations of Contract, to the General Profession.... 540
Surgery, A Clinical Report of Operative, in the Service of Dr. William T. Bull, at the New York Hospital.... 441, 475, 510, 618, 704
Surgery, Drainage in Abdominal.... 691
Surgery, etc., Electricity in.... 647
Surgery, Plastic.... 134
Surgery, Railroad.... 159, 263, 599
Surgery, Railway.... 157
Surgery, Reports on.... 79
Surgery, Reports on General.... 727
Surgery, The Present Position of Abdominal... 199
Surgery, Uniform Nomenclature in Orthopædic. 168
Surgery? What is Orthopædic.... 220
Suturing of Granulating Surfaces, Secondary... 20
Sweating of Reflex Origin, Local.... 369
Swedish Movements in Gynæcology.... 757
Symblepharon of the Lower Lid, A New Operation for.... 345
Syms, P. The Influence of Laparotomy upon Tuberculosis of the Peritonæum.... 141, 164
Synechiæ, The Division of Anterior.... 380
Syphilis, Calomel Plaster for.... 285
Syphilis, Leloir's Method of treating.... 285
Syphilis, Paralysis of Ocular Muscles in Congenital.... 344
Syphilis, Pulmonary.... 689
Syphilis, Tracheal.... 672
Syphilitic Lesion, The Inefficiency of Radical Treatment of the Initial.... 688
Syringomyelia.... 606
Syringomyelia, Cutaneous Changes in.... 286

Tabes, An Hereditary Type of Motor.... 375
Tabes Dorsalis, The Affections of the Ear in.... 109
Tabes Dorsalis, The Visual Disturbances in.... 378
Tabes, Saturnine Pseudo-.... 277
Tachycardia in Children.... 633
Tapioca, Arsenic in.... 221
Taylor, G. H. The Postural or "Lifting" Couch. 480
Taylor, R. W. Observations on Prurigo, Clinical and Pathological.... 1
Temperaments, Dr. Gibier's Theory of.... 20
Tenaculum, The Diverging Lock.... 318
Tendon, Rupture of a Phalangeal.... 308
Teno-synovitis, Tubercular.... 434
Tenotomy of the Tensor Tympani.... 108
Tenotomy, Superextension after.... 660
Terpene Iodide in Acute Diseases of the Lungs.. 184
Tetanus, Immunity from.... 722
Thacher, The Death of Dr. James Kingsley, of New Haven, Conn.... 488
Therapeutics, Studies in.... 37
Thief, Another Sneak.... 221
Thomas's Splint in Knee and Ankle Diseases... 659
Thorax, Dr. Beely's Apparatus for Measuring the.... 25
Thorax, The Form of the, partly determined by Gravitation.... 627
Throat, Notes on Aristol in the Treatment of the Diseases of the Nose and.... 591
Thrombosis after Scarlet Fever.... 134
Thymol, Filarial Chyluria treated with.... 459
Thyreoid Cartilage, Fracture of the.... 433
Thyreoid Glands, Two Cases of Removal of the. 374
Thyreoid, Grafting the, for Myxœdema.... 68
Thyreoidectomy.... 338
Tic of the Psoas and Iliacus Muscles, Convulsive.... 369
Tic Douloureux, The Pathological Anatomy of. 48
Tic of the Soft Palate, Convulsive.... 130
Titles after Authors' Names, The Display of.... 319
Tobacco in the Treatment of Diphtheria.... 571
Tongue, Excision of the.... 729
Tongue, Lingual Neuralgia of Malarial Origin with Ulceration of the.... 402
Tonsil, The Development of the.... 227
Torticollis, Neurectomy for Spasmodic.... 466
"Tracheal Tugging" in Thoracic Aneurysm, The Diagnostic Value of the Physical Sign. 522
Trachoma, A New Treatment of Chronic.... 350

PAGE

Trachoma, The Surgical Treatment of.......... 597
Tractor, The Atmospheric..... .... 490, 723
Transplantation of Mucous Membrane from the Mouth to the Eyelids.......... 537
Treatment, The Cantharidin..................... 480
Trendelenburg's Posture, Gynæcological Examinations in.......... 757
Trephining for Epilepsy, with Reimplantation of Bone............................ 223
Trephining for Traumatic Aphasia 517
Trephining, Remarks on the Reimplantation of Bone in............... 553
Trephining, Successful, for Traumatic Rupture of the Middle Meningeal Artery............ 487
Trephining the Spine for Fracture............... 729
Trichiasis, A New Operation for Entropion and. 381
Trichiasis Operations, Distichiasis and 378
Triplets, A Case of...................... 462
Trismus Neonatorum treated with Sulphonal, A Case of 468
Tuberculin in the Treatment of Pulmonary Tuberculosis...................... 632
Tuberculosis, Daguerreotypists' Alleged Immunity against 279
Tuberculosis, Gold and Manganese in 220
Tuberculosis in Children 201, 224
Tuberculosis of the Peritonæum, The Influence of Laparotomy upon 141, 164
Tuberculosis Pulmonalis, Pertaining to the Treatment of.............................. 149
Tuberculosis, The Alleged Immunity of Daguerreotypists to.................... 221
Tuberculosis, The Anilines in the Treatment of. 130
Tuberculosis, The Pneumonic Form of......... 248
Tuberculosis treated with Koch's "Lymph," The Results of an Autopsy in a Case of General.................................. 272
Tuberculosis, Tuberculin in the Treatment of Pulmonary.................................. 632
Tumor, A Cerebral............................. 465
Tumor, A Submaxillary, Composite, Cartilaginous 164
Tumor expelled by the Vaginal Outlet, A Large Uterine................................... 546
Tumor, Extirpation of an Intraligamentous Ovarian................................. 310
Tumor, Extraction of a Melanotic Intra-ocular, by an Incision through the Sclerotic........ 379
Tumor of the Brain 81
Tumor of the Brain, Hydatid.................... 80
Tumor of the Brain, Recovery after a Train of Symptoms indicating......................... 54
Tumor of the Centrum Ovale.................... 191
Tumor of the Median Nerve..................... 308
Tumor, Pendulous 133
Tumor, Sarcomatous Abdominal................ 433
Tumors, An Inquiry into our Present Knowledge of the Progress of Myomatous......... 195, 469
Tumors, Five Cases of Axial Rotation of Ovarian....... 565
Tumors of the Optic Nerve. 346
Tumors of the Ovary, The Origin of Epithelial . 199
Tumors of the Thyreoid Gland.......... 164
Tuning-fork, The Results of the Examination by the, in Cases of Disease of the Mastoid.. 109
Turner, S. S. Death from Brain Disease without Symptoms.... 299
Turpentine, The Toxic Dose of Oil of.......... 724
Twins, The Paternity of........................ 412
Typhoid Fever at Fort Sam Houston, Texas.... 298
Typhoid Fever complicated with Jaundice...... 460
Typhoid Fever in an Infant Seven Months Old.. 133

PAGE

Typhoid Fever, The Cold-bath Treatment in.... 522
Typhoid Fever, The Urotoxic Coefficient in..... 73
Typhoid Fever, The Weight of the Body during. 488
Typhoid Fever with a Severe Relapse, A Case of Abortive 134

Ulcer of the Stomach causing Fatal Perforation, Round................................ 251
Ulcer of the Stomach, Round.................. 133
Ulcer, Resorcin in Rodent...................... 683
Ulceration of the Stomach...................... 519
Ulceration of the Tongue, Lingual Neuralgia of Malarial Origin with....................... 402
Ulcers of the Cornea, The Treatment of........ 338
Ulcers of the Cornea, The Use of the Actual Cautery in Infected 624
Ulna, Recurrent Dislocation of the 493
University of Cincinnati, The.......... 370
University of Pennsylvania..................... 628
University of Pennsylvania, The................ 685
University of the City of New York, The Medical Department of the..................... 370
University, Syracuse...... 685
Unna, P. G. Letter to the Editor........ 133
Ureter, A Calculus impacted in the.... 82
Urethra, A Diverticulum of the Male........... 227
Urethra, Polypi of the Male 533
Urethra, The Comparative Frequency of Organic Stricture of the, in the White and Colored Races............... 560
Urethrotome, A New........................... 97
Urethrotome, An Important Attachment to the Otis Dilating................................ 111
Urine, A Method for the Quantitative Estimation of Acetone in............................ 134
Urine, Estimation of Sugar in.................... 288
Urine, Examination of the, for Life Insurance.. 229
Urine, Hæmatoporphyrin of the................. 524
Urine, Heller's Test for Albumin in the 461
Urine in Children's Diseases..................... 15
Urine in Paludal Poisoning... 73
Urticaria, Iodide of Potassium in............... 285
Uterus, A Rare Complication of Fibro-myoma of the.. 757
Uterus, Cancer of the 310
Uterus, On Total Extirpation of the, by the Vagina...................................... 196
Uterus, Pathological Changes in the Falloppian Tubes in Fibro-myomas of the.............. 757
Uterus, Ventral Fixation of the 437

Vaccination as a Preventive of Influenza 384
Vagina, A Case of Supposed Evacuation of a Psoas or Lumbar Abscess through the...... 25
Vagina, The Treatment of Injuries to the Floor of the...................................... 253
Van Gieson, I. Observations on Prurigo, Clinical and Pathological......................... 1
Varicella, Nephritis following.................. 277
Varnish, Ichthyol............. 751
Vaughan, G. T. A Case of Hermaphroditism.. 125
Venous Hum in the Neck, The Diagnostic Significance of a................................ 635
Ventricles of the Brain, Drainage of the........ 277
Ventricles of the Brain, The Surgery of the Lateral 79
Vertebræ, Laminectomy for Injury of the Cervical...................................... 518
Vertigo, On Some Points in the Pathogenesis of Aural.................... 716
Vineberg, H. N. Brandt's System in Gynæcology. 87

PAGE

Vineberg, H. N. Reports on Gynæcology...... 757
Viscera in the Infant, The Relations of the Pelvic.. 317
Vision, Disturbances of, due to Malarial Infection..... 380
Vision in Astigmatics, The Pathological Action of Contours in Unilocular 347
Vision in Glaucoma, Iridescent................. 345
Vision in Miasmatic Poisoning, Affections of... 380
Vision, The Color Sense in Indirect or Peripheral 346
Vision, The Extinction of the Retinal Images of the Squinting Eye in Binocular............. 347
Visual Sense, The Doctrine of Disturbances of Function of the 348
Vitreous Humor, The Introduction of an Artificial, into the Scleral Cavity................. 381
Vocalists, Laryngitis in.......................... 427
Vomiting of Pregnancy, Menthol in the Treatment of the 248

Warlomont, The Death of Dr., of Brussels...... 403
Warren, The Death of Dr. Joseph H., of Boston 430
Warts, Seborrhœal........ 133
Washington, Letters from.............. 15, 127, 570
Water in the Treatment of Surgical Lesions, Hot... 244
Weber's Law for the Light Sense, The Validity of............. 381
Webster, D. Nine Cases of Detachment of the Retina treated by Operation................ 326
Weir, R. F. Remarks on the Reimplantation of Bone in Trephining 553
Weir, R. F. Suprapubic Cystotomy for Calculus, etc 617
Weiss, L. Notes on the Examination for Tubercle Bacilli.................................... 66
Wenzel, M. Letter to the Editor................. 462
Whitaker, F. Letter to the Editor.............. 152
White, J. B. Letter to the Editor.............. 279
Whooping-cough, Acute Transitory Blindness and 236
Will, A Physician's Strange..... 171
Williams, The Death of Dr. Augustus Purdy.... 461
Wilson, N. L. Letter to the Editor..... 308
Wintergreen in Rheumatism, The Local Use of the Oil of.............. 515
Women, Excessive Disinfection of the External Genital Organs of Parturient............... 756
Women, The Association of Rectal and Pelvic Disease in................................. 576
Women, The Gouty Diathesis in........... 488
Woodward, J. H. Letter to the Editor......... 431
Woodward, J. H. Muscular Asthenopia....... 152
Woolley, D. M. Letter to the Editor........... 372
Word-blindness and Agraphia.................. 605
Word-blindness with Unusual Features......... 402
Wound of the Brain, Bullet...................... 52
Wound Treatment without Drainage............ 82
Wounds, Gunshot.............................. 690
Wright, J. Tracheal Syphilis.......... 672
Wryneck, Spasmodic, cured by Excision of Nerves 605
Wyeth, J. A. Amputation of the Left Upper Extremity, together with the Outer Half of the Pectoralis Major, etc..................... 57

Xerosis, A Form of Ocular 345

Zoster, A Case of Reflex Epileptoid Convulsions following an Eruption of................... 36

UNIVERSITY OF ILLINOIS-URBANA
3 0112 071347915